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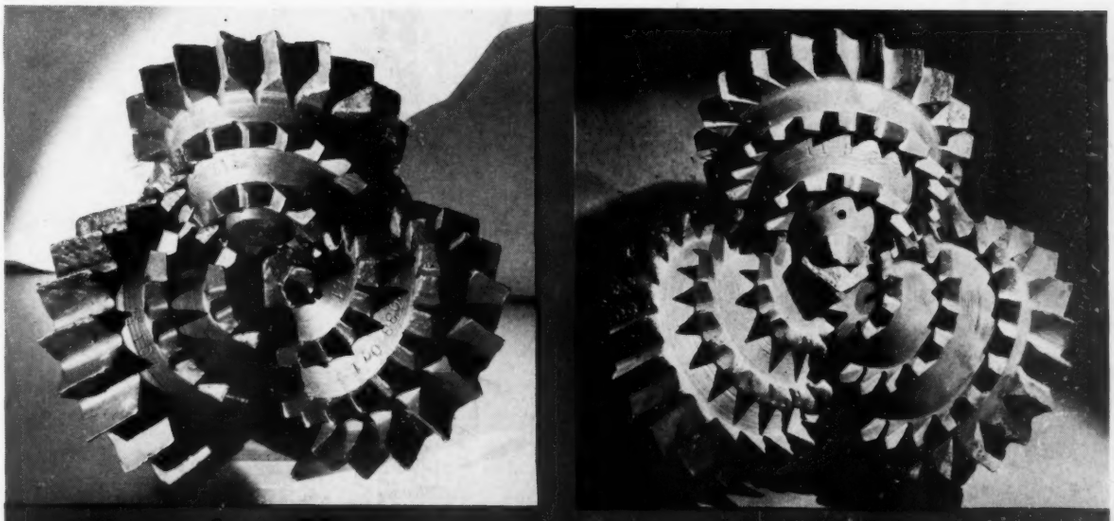

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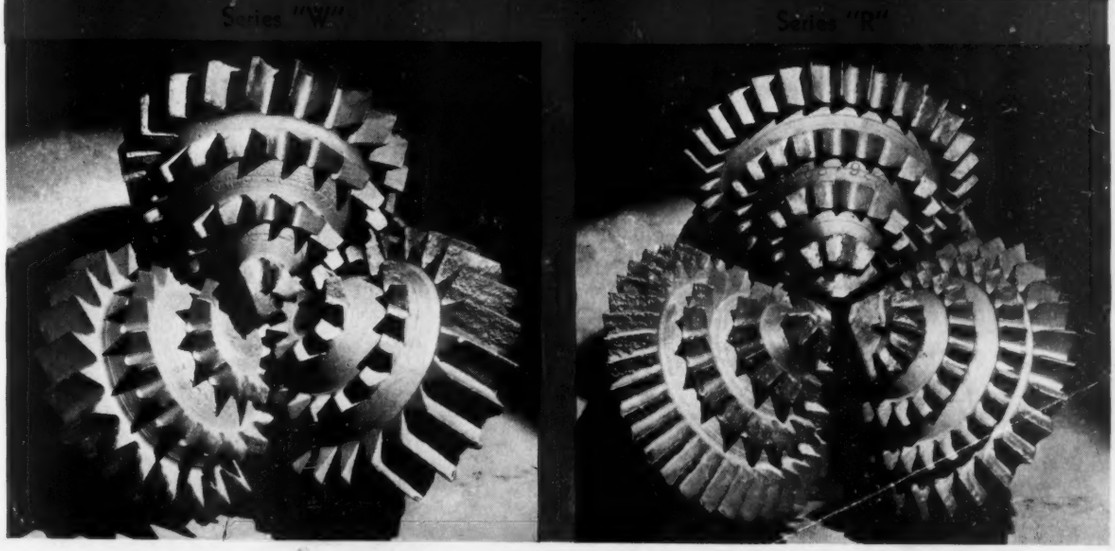

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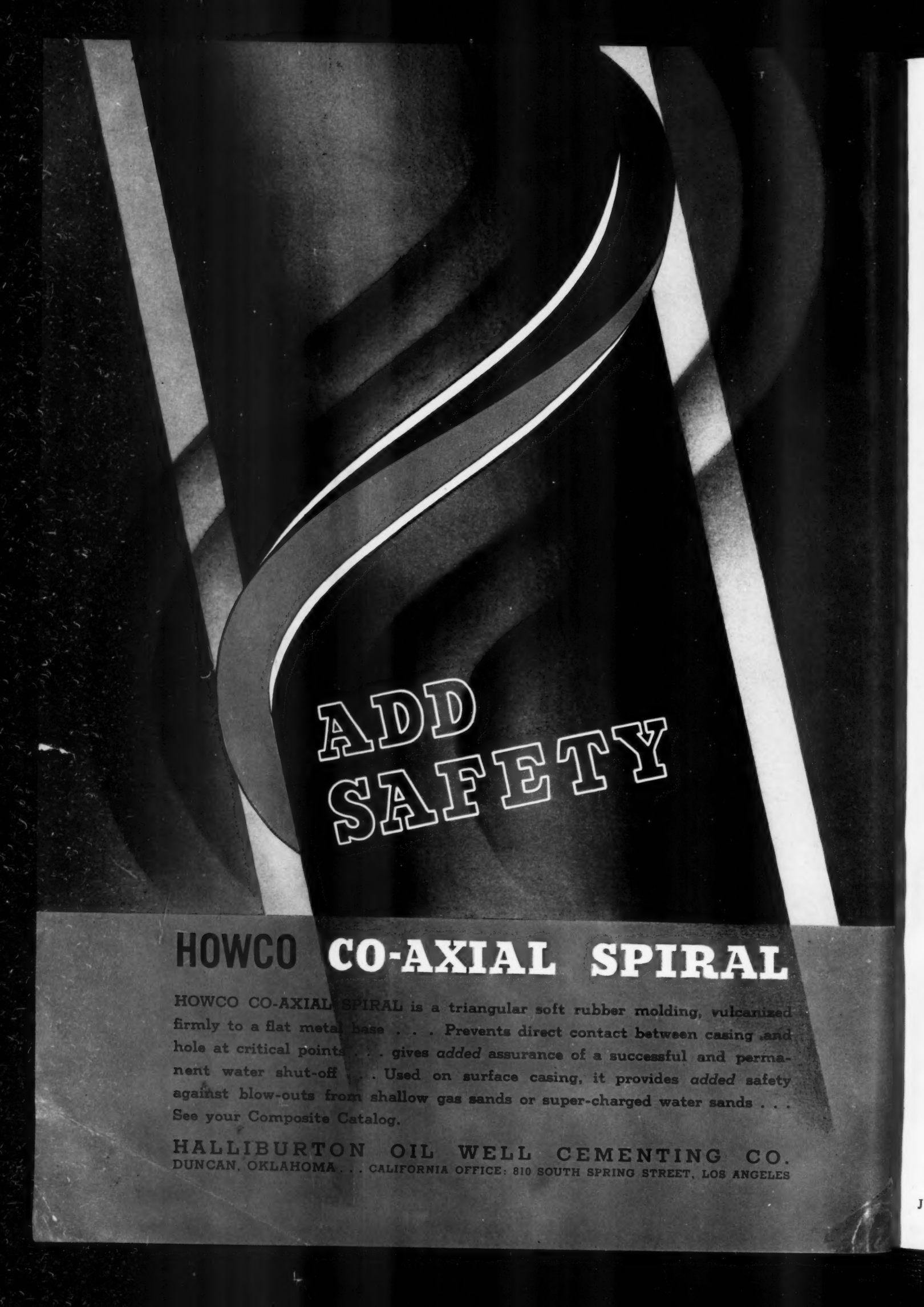

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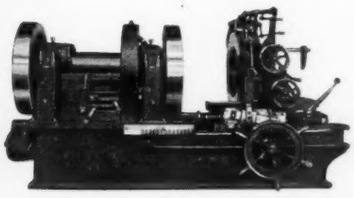

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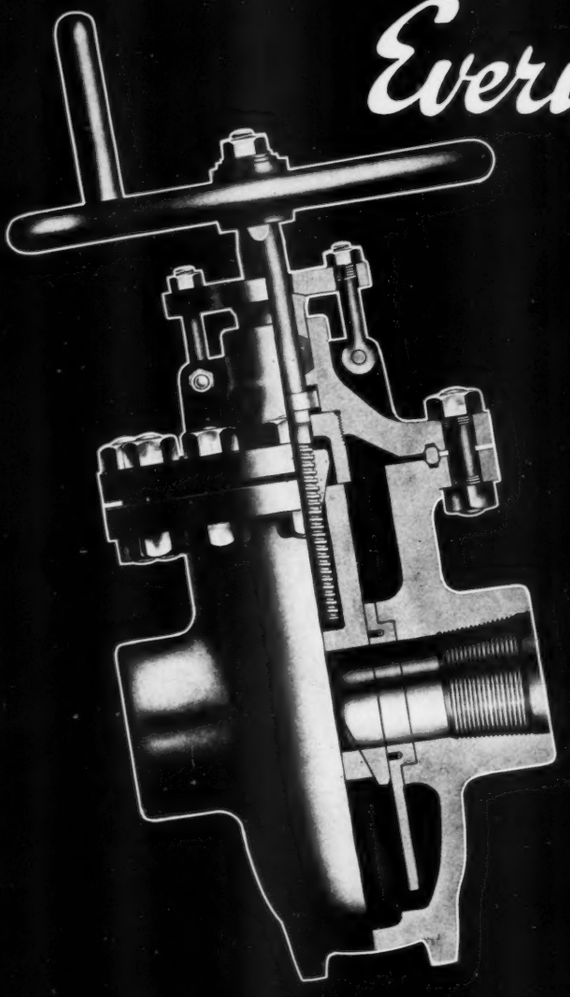

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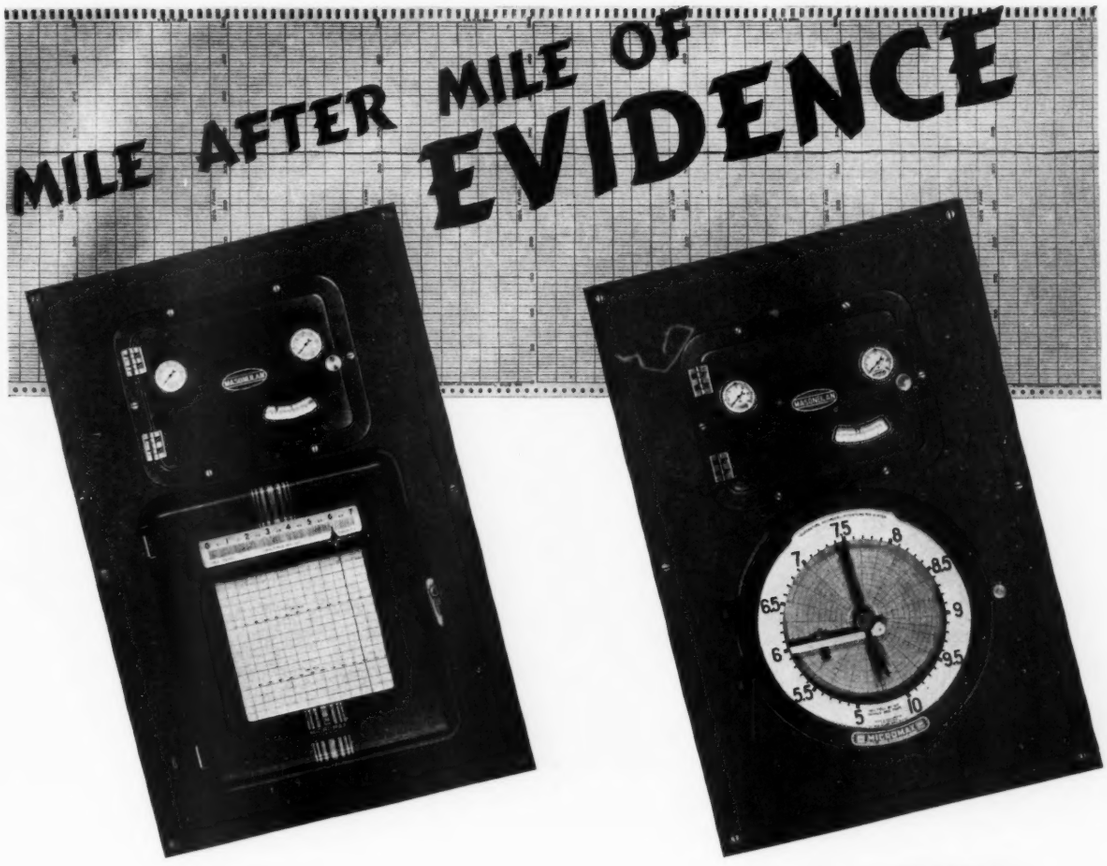

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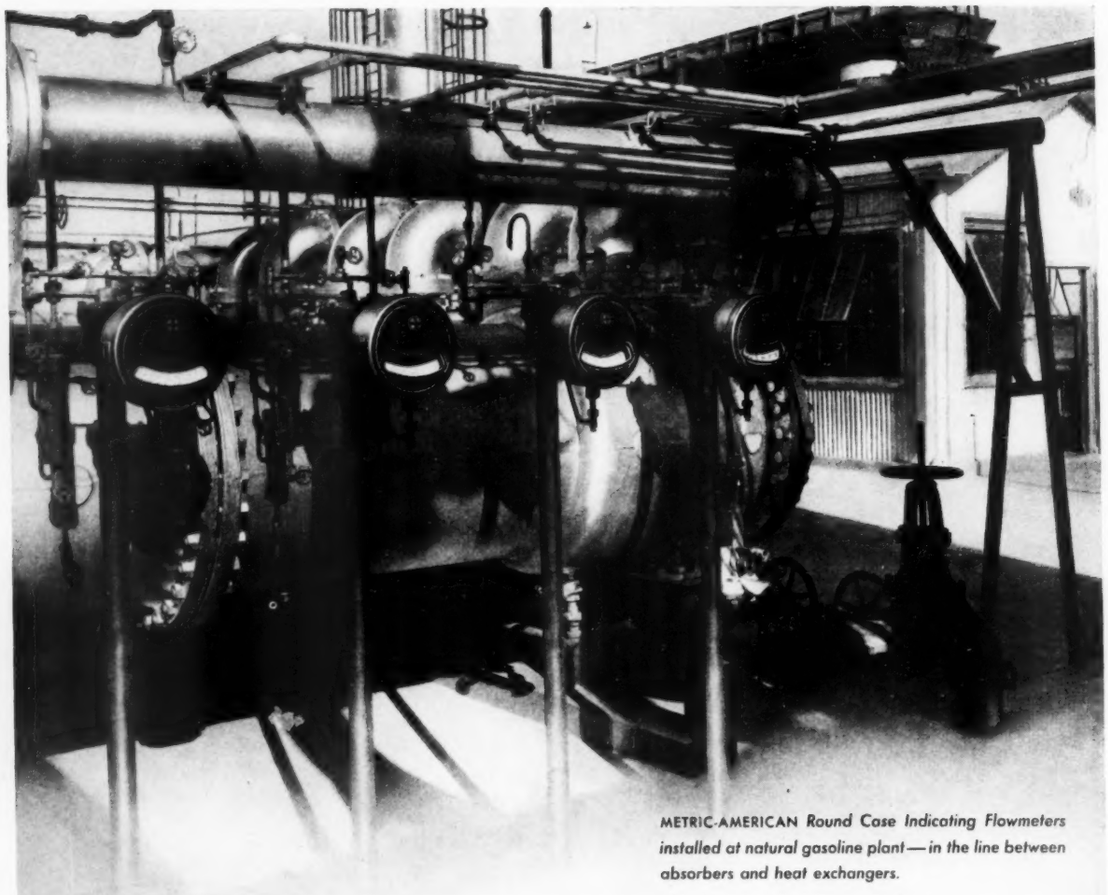

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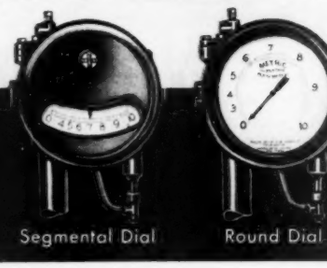

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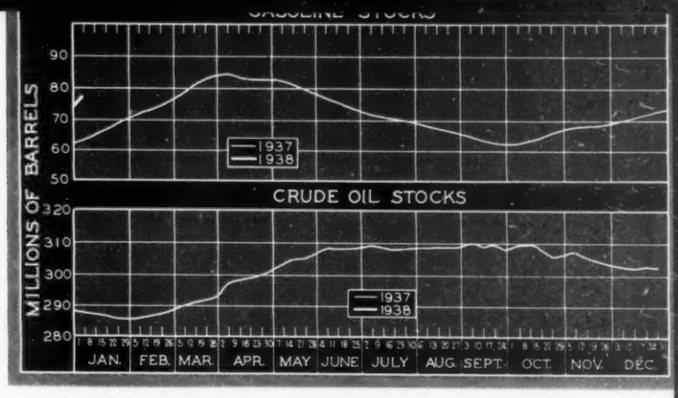


Texas May Suggest Shutdowns

THE entire industry may be called upon to consider the feasibility of Sunday shutdowns in its producing operations, it was revealed the first of the week. Information coming from official sources indicated that Texas members of the Interstate Compact Commission will suggest such a plan at the next meeting of the commission to be held in Oklahoma City, January 18. It also will be one of the matters considered at the conference sponsored by Governor Marland to be held at Hot Springs, Ark., January 24.

CRUDE PRODUCTION *3,447,006 barrels daily average—down 49,112 barrels.*

CRUDE STOCKS *303,041,000 barrels as of December 18—down 122,000 barrels.*

GASOLINE STOCKS *77,291,000 barrels as of January 1—up 2,854,000 barrels.*

REFINERY RUNS *3,320,000 barrels daily week ending January 1—up 75,000.*

The proponents of the plan in some cases go so far as to include refinery operations. They point to the fact that similar action has been taken by other industries in order to prevent overproduction. They claim that while adding to costs it is preferable from the standpoint of management and labor to a continuance of operations on a normal basis with the resulting excess supplies and unsettled markets. They also stress the results obtained in the East Texas shutdowns covering four Sundays. It is claimed that with modern production methods one-day shutdowns can be controlled to the point where there will be no permanent losses in crude oil and natural gas output. Some are confident that such a plan of operation could be worked out on a permanent basis with little if any increase in costs.

Most operators apparently feel that any interruption of the continuous operations to which the industry has been accustomed from its beginning could be justified only as an emergency measure when all other means of control failed to reach their objectives. A few at least are outspoken in their condemnation of the plan as a temporarizing measure which would do more harm than good if generally adopted. They insist that in most producing fields Sunday shutdowns would reduce ultimate recoveries and increase operating costs.

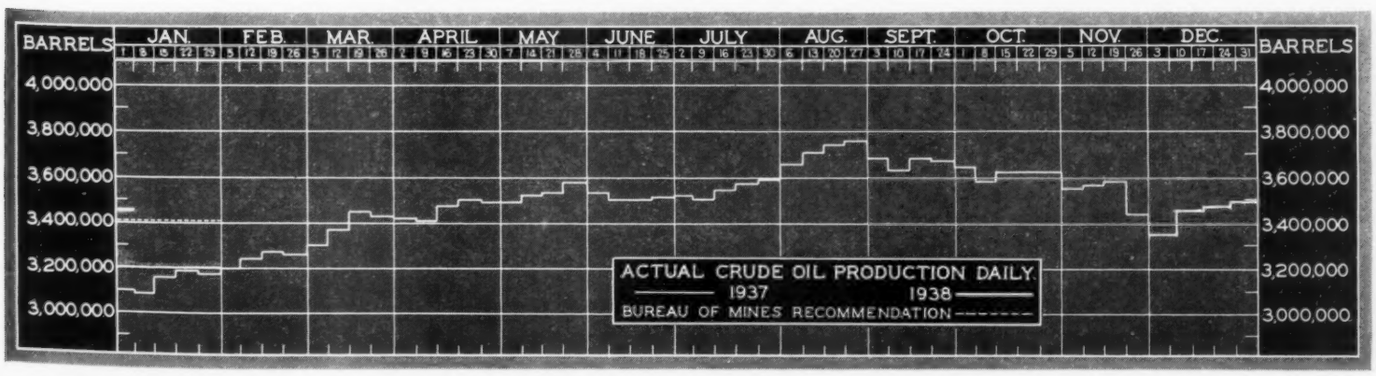
The holiday lull was responsible for a substantial reduction in national crude oil production last week. Those supporting the Sunday rest periods are fearful that this situation will not continue through the month. They also advocate the plan as a means of bringing about a reduction in crude runs to stills over the next sixty days so that gasoline stocks will not become excessive.

Crude stocks at the end of the year were about 14,000,000 barrels greater than the year previous. In early September they totaled approximately 312,000,000 barrels, a gain of 24,000,000 barrels from the start of the year. Since September stocks have been reduced approximately 10,000,000 barrels.

Daily Average Production for Week

	Jan. 1 1938	Bur. Mines Jan. est.	Jan. state allowables	Dec. 25 1937
Oklahoma City	109,550			123,900
Fitts	73,300			75,250
Remainder of state	350,825			351,150
Total Oklahoma	533,675	566,600	550,000	550,300
East Texas	491,200			489,450
West Texas	194,250			192,399
North Central Texas	106,199			105,950
Texas Panhandle	67,448			72,548
East Central Texas	85,798			93,649
Gulf Coast Texas	325,650			329,198
Southwest Texas	108,348			111,800
Total Texas	1,378,893	1,350,900	1,357,573	1,394,994
North Louisiana	76,375			81,510
Gulf Coast Louisiana	174,650			170,850
Total Louisiana	251,025	238,400	256,000	252,360
California	703,000	678,300	678,300	705,500
Kansas	166,600	179,300	186,472	182,175
Arkansas	48,795	35,200		45,275
Eastern fields	136,050	128,000		133,850
Michigan	50,078	54,100		51,214
New Mexico	107,600	103,100	104,100	107,650
Rocky Mountain area	71,290	72,900		72,800
Total United States	3,447,006	3,406,800		3,496,118

Decrease, 49,112 bbls. daily.



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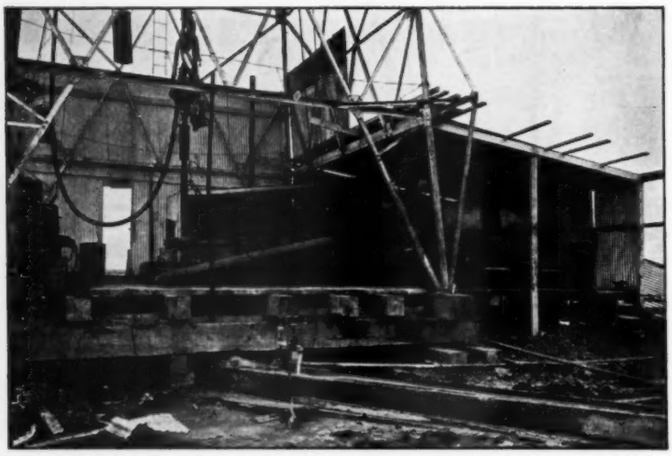


Light-duty diesel or gas-gasoline powered rotary for drilling to top of producing section

By MITCHELL TUCKER

WICHITA FALLS, Tex., Jan. 3.

The deep lime and sand development of the old shallow K.M.A. field of Wichita and Archer counties, North Texas, seems to head the list of reasons why 1938 will be another banner year for the producing branch of the industry. Proven acreage has been added to this field so rapidly during the past 90 days that inside drilling has fallen far behind. As the producing limits of the deep pay horizon have not been defined on any side boom conditions continue to prevail at a growing rate, and K.M.A. is certain to be one of the most active areas during the new year.

At the close of 1937 there were 89 completions in the field, having an aggregate daily allowed production of 4,500 bbls., or an average per well of 51 bbls. daily. There are now 96 wells either rigging up or drilling, and of this number 32 are in the stage of completion. A maximum allowable per well of 58 bbls. is granted all K.M.A. deep producers capable of establishing a 500-bbl. potential or greater. Only nine of the present producers test less than 500 bbls. daily on official gauge, and most of them several times that amount.

The development of K.M.A.'s deep (3,800-4,000-foot) horizon thus far has been very unusual in one respect. Perhaps in no other field in recent years has so large an area been proven by so few wells in such a short time, but there are good reasons for this phenomenon.

The territory extending from the southern tip of the K.M.A. shallow field in northern Archer County, up in a northeast direction into Wichita County to Electra and beyond, (comprising 100,000 acres and more) has been under lease and held for more than 15 years by the shallow production from 450-, 1,200-, 1,650-, and 1,750-foot sands. Therefore, when the deeper pay was established by Deep Oil Well Development Co. No. 1 Munger in 1931, and later offset on all sides by attractive producers, the only available acreage to new operators entering the play was along the fringe of the northeast-southwest trend of shallow production.

As a result, wildcatting at outpost locations a mile or so from deep production was begun by many of the new lease holders. Out of the 89 present completions, only about 30 were inside locations at the time they were drilled. All others were staked as extensioners or semiwildcats, and added many acres to the proven area at the time of their completion.

As an example, K.M.A.'s most recent completion, King Oil Co. No. 1 Waggoner Brothers, Block 8, M. A. Willis Survey, extended the field over a mile north and apparently added about 1,800 acres to the proven area. Immediately after this well began to flow by heads and establish itself as a good producer, Rathke Oil Co. began drilling No. 1 Tom Burnett 4½ miles farther northwest in the H.T.&B. Survey. Should the pay section be found here at a favorable level, several thousand proven acres will be added.

The term "proven area" has been rather loosely used in discussions of the prevailing boom at K.M.A. Geologists and paleontologists are still concerned with the definite establishment of the age or classification of the present deep pay. Some offer good reasons for calling it a lower member of the Strawn (Pennsylvanian) while others present equally good reasons for placing it in the upper section of the Bend series (Mississippian). At any rate, contours on top of this lime show sufficient continuity in all directions to justify classing the intervening area as proven or semiproven. It is thought that variations in the porosity of the lime will be the only limiting factor on the productivity of inside locations.

From present control in contouring the lime tops, the total proven area in round numbers is conservatively estimated to be 40,000 acres. Assuming a 10-acre spacing pattern, there remain over 3,800 inside locations to be drilled. Ownership of the proven lands is widely divided among 75 different lease holders.

Majors Interested

Nine of the major and semimajor companies are identified with the field, including Sinclair Prairie, Texas, Magnolia, Gulf, Sunray, Continental, Humble, Shell and Atlantic. Their combined interests, however, comprise but about one-fourth of the field as it is now established. Up to the present no completions have been made by any major company, but it is expected they will assume a more prominent part in K.M.A. development after their 1938 budgets are released. Several well-founded rumors are to the effect that some large lease sales will be made to majors soon after the first of the year.

The large number of proven but undrilled locations, and the wide diversity of lease ownership, provide sufficient justification for expecting boom drilling and activity to continue and increase.

Estimates of recovery from the K.M.A. deep horizon have varied from the conservative figure of 6,000 bbls. per acre to a high of from 15,000 to 20,000 bbls. an acre. The best available yardstick for reserve estimations at this early stage of development is found in a consideration of the yields already made from the discovery well and others drilled several years ago before the real potentialities of the field had been indicated. Deep Oil Development Co.'s discovery well, No. 1 Munger, was completed with an initial production of 125 bbls. per day, after it had been plugged back and poorly completed from the former total depth of 5,600 feet. However, up to the present this well has produced over 151,000 bbls. of oil by pumping. In late 1937 an east offset to this well was completed making 1,100 bbls. per day, one to the south made 900 bbls. and another to the southwest made 1,000 bbls. per day, all of which indicates the discovery well had not drained a great area even

Our January 20 issue will cover in detailed, notable style the

K. M. A. Field

A MAJOR AREA FOR 1938

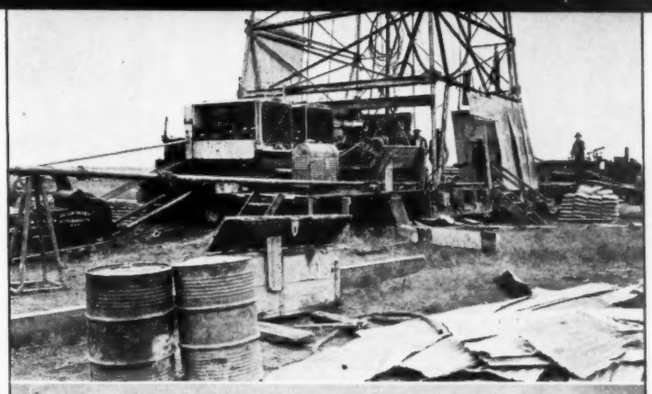
WITH

- a map of the K.M.A. field, and also a map of the general area;
- engineering articles covering K.M.A.'s drilling and production practices;
- geology of that field and area, and analyses of K.M.A. crude oil;
- field services which provide a complete background of facts on the field;
- a discussion of K.M.A.'s field development, new reserves, pipe line outlets, etc.

Why scramble for a last-minute copy? Place a leisurely order with your newsdealer, or with the Tulsa office of The Oil and Gas Journal. Two dimes do the trick!

ts Add to K.M.A.

ng Acreage



Typical K.M.A. diesel-powered rotary

though 151,000 bbls. have been produced. Assuming a 10-acre drainage area, a yield of over 15,000 bbls. per acre has been made from the discovery well by pumping over a six-year period.

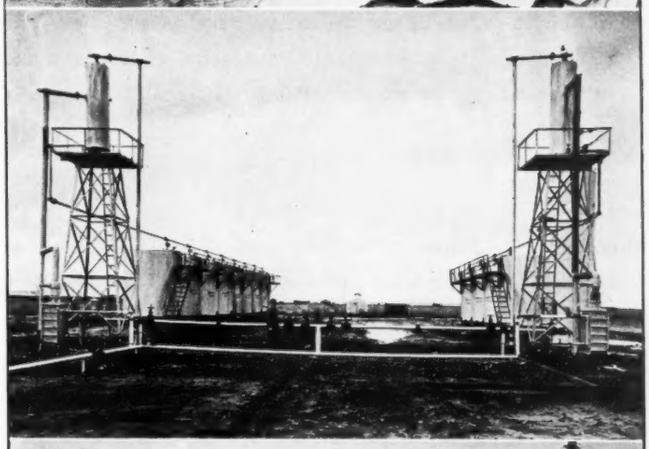
To the west, in the Kemp City portion of the field, Jack H. Martin completed No. 1 Taylor in 1931 for a 25-bbl. producer naturally, and 72 bbls. after shot. Since that time it has produced over 60,000 bbls., or a 6,000-bbl. per acre yield by natural flow.

An overall recovery of from 6,000 to 8,000 bbls. per acre is conservative. At the west end of development, where a true and well saturated sand occurs within the lime section, recoveries are expected to be considerably higher. Hence, probable ultimate recovery from the present proven area may be tentatively placed at from 240,000,000 to 320,000,000 bbls. at this early stage of development.

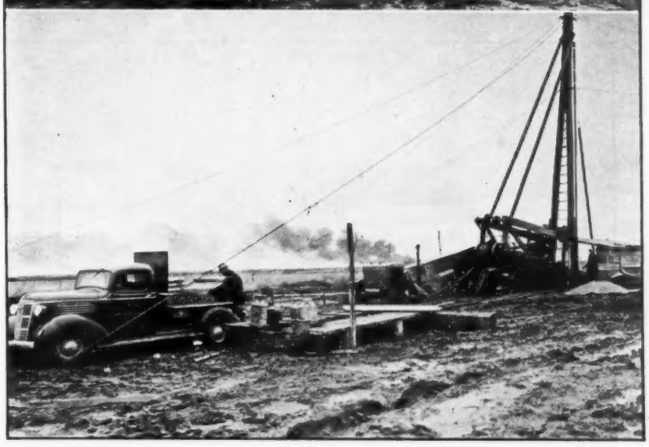
Lease trading continues at an active rate, even though prices have already been pyramided several times in certain portions of the "play." Acreage is being taken to the west into Wilbarger County, and on all sides of the densely drilled shallow fields of Wichita, Archer and Wilbarger counties at the present time.

A deeper test, possibly to the Ellenberger of Lower Ordovician age, will undoubtedly be made on this structure, as it is considered to hold favorable possibilities at the lower level.

In the drilling of K.M.A. wells, they are spudded to about 80 feet, where 10-inch pipe is set and cemented while rotary rig is being moved on. About 15 days are required to drill to the top of the lime at about 3,700 feet and set 7-inch. Portable spudders, driven by gas, gasoline, or diesel motors, are used in completing all wells. No selective completioning has been done in the field thus far. Shooting with 400 to 500 quarts upon completion is almost standard practice for wells on the east side of the field where only a lime pay is drilled. Some shooting has been done on the west, where a lime and sand pay occurs. Studies are now being made on the most effective method of acid application.



Elevated separators and tank battery on Munger lease



Preparing to shoot an east side well

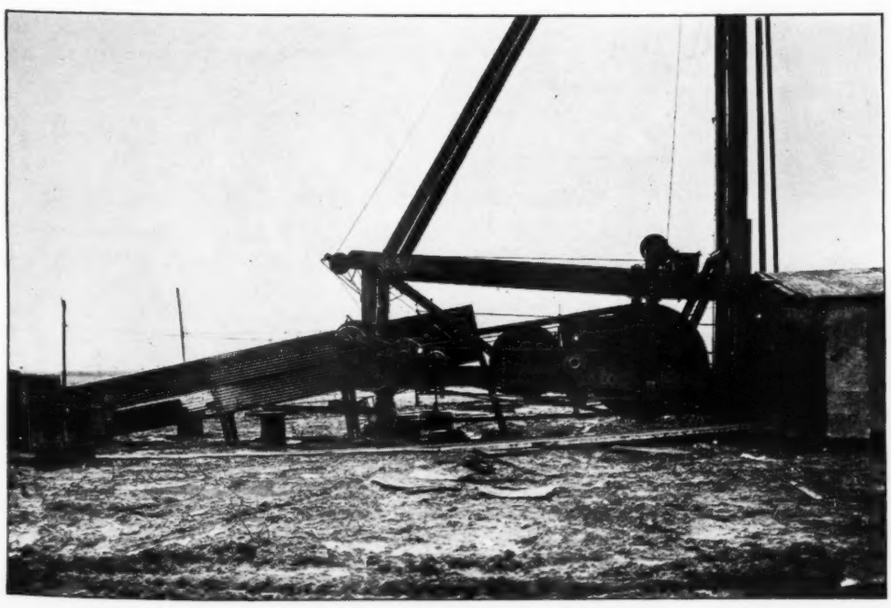
Water for steam drilling is available from Beaver Creek or from the system of irrigation ditches throughout this part of the country. However, due to its high alkali content, severe damage has been done to rotary boilers on several occasions. The diesel, or gas-gasoline, motor-driven rotary rigs, are in great prominence in the field at present. Rotary outfits include the 5½-inch drawworks, with medium size slush pump V-belt driven from the drilling engines. Fish-tail or drag bits are used to about 1,500 feet, and the holes are finished with rock bits to top of the lime where they are standardized.

Most drilling contracts have been upon a turnkey basis, at the rate of about $3 per foot. Costs of completing wells vary from $22,000 to $25,000 per well (in the tanks), divided as follows:

Contract	$12,000
Casing and tubing	7,500
Cement and lumber	2,000
Drilling in and cleaning out after shot	2,000
Shooting	1,000
Tankage (per well)	500
Total	$25,000

Systematic bottom-hole pressure tests have not been made in the field yet, but those tests which have been taken indicate an average of about 1,300 pounds. This oolitic and conglomerate limestone apparently gives up its oil freely, where a favorable porous condition exists, as fluid levels stand high in the five pumping wells in the field. All others are producing by natural flow. A tight producing formation in some particular locality, or improper completion of early wells, are given as the reasons why these five wells require artificial lifting. Small portable pumping units are used at these wells.

Five trunk lines have ample reserve capacity to care for new production over the next year or two. Four refineries are operating in the Wichita Falls district, taking some high-gravity crude requirements from K.M.A. deep producers.



Portable spudder used for drilling in

SPARKS FROM THE NEWS

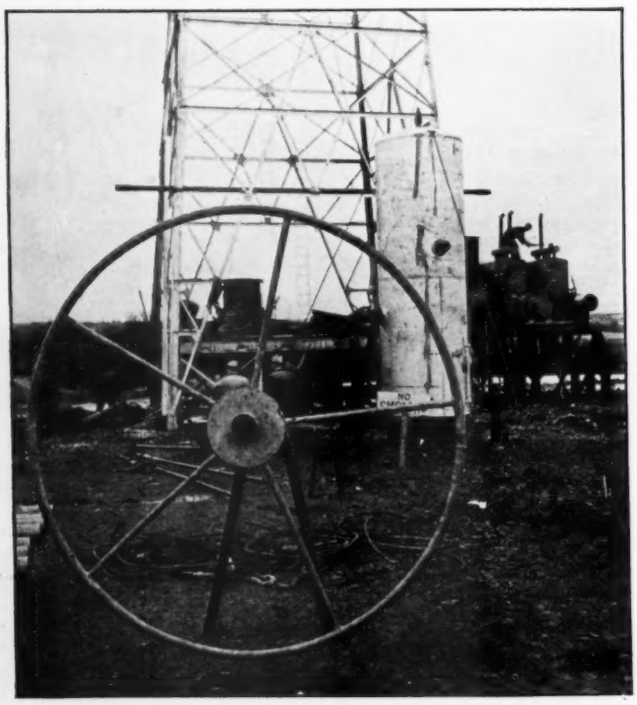
INVESTMENT NOTE

It's a queer refining market. The same number of pennies will buy a gallon of low-octane motor fuel, No. 1 prime-white distillate, No. 1 range oil, 41-43 kerosene, 40-42 tractor fuel or 14-pound natural gasoline. P.S. Bargains all.

ONLY OIL

A 5,400-horsepower oil-driven passenger train of 17 coaches, the largest and fastest in the world, was placed on scheduled runs this week between Chicago and San Francisco. Oil is the only source of energy that will permit such an accomplishment at low cost.

OKLAHOMA POOL OPENER



Payne County wildcat discovery

HELPING THE GOVERNMENT

At comparatively small cost to the government a major oil company will redesign 12 tankers so that they will be more useful in national defense.

FIRST YEAR

Illinois made a good record in the first year of its renaissance with pools opened in five counties—Marion, Wayne, Clay, Richland and Fayette—and a production of 23,000 barrels daily. A hundred wells are now drilling in thirty counties.

GOOD START

An important extension to a Middle West gasoline pipe line system and a 250-mile trunk line in Colombia gets the pipe line branch of the industry off to a good start for the new year.

CRUDE DEMAND

An advance of $25,000,000 on a Venezuela crude contract indicates the demand existing for the product outside the United States.

ISO-OCTANE

Approximately 2,000,000 gallons of fighting-grade aviation gasoline, consisting essentially of iso-octane, will be marketed in the United States this year. A few years ago iso-octane was a laboratory curiosity, kept in a bottle for test purposes.

OLD RELIABLE

After many disappointments in deeper sands the old reliable Wilcox sand appears about to present Oklahoma with a new field in Payne County.

GULF DISCOVERIES

The Texas Gulf Coast gets under way for 1938 with two pools in Jefferson County and two promising showings in other counties.

SMALL FRACTION

Despite the widespread efforts to get oil from coal and shale, present production represents less than one per cent of the world's supply.

GASOLINE BOWLS

Six New Year bowl football games attracted 250,000 spectators. It took more than that many gallons of gasoline to get them to the stadia.

RETROSPECT

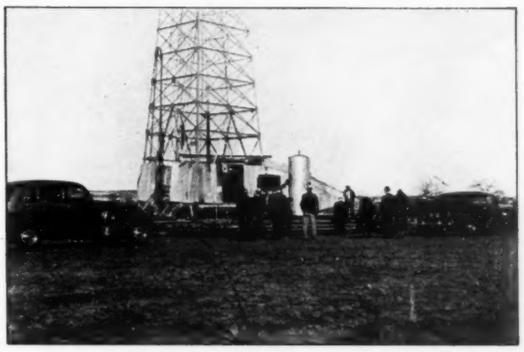
The new K.M.A. production is found at 4,000 feet—not a deep pay in these days. That is another reason many small and major operators cannot understand why they passed up so large an area for more than 15 years.

IN THE LEAD

East Texas, with 109 drilling wells, again leads the industry with the rotary at the start of 1938.

Oklahoma Outlook Brightened by Wilcox Strike

By DAL DALRYMPLE



The Payne County pool opener

The Mid-Continent Petroleum Corp. and others No. 1 Ramsey, SW SW NW section 18-18-2e, wildcat, rekindled the enthusiasm of Oklahomans when it cleaned itself Sunday morning and flowed 935 bbls. of oil in two hours to fill available tankage and rate as an estimated 10,000-bbl. well.

The wildcat had had little advance publicity. It had been considered as just another wildcat being drilled in a county that had been facetiously dubbed "a graveyard of wildcatters." Then it found the Wilcox sand and the news leaked out that it gave promise of finding production in the rich horizon that has paid off in many other Oklahoma areas. Royalty traders and buyers had almost overlooked their opportunity, only a few having participated in the play prior to topping of the sand, and as late as Saturday night considerable royalty under and around the community block on which the test was drilled was on the market, but at rapidly rising prices. Much of this soon was snapped up, some at prices reported as high as $1,000 or more an acre.

Royalty Play Develops

The high royalty prices caused the play to slow down somewhat Monday, some of the conservative buyers saying they would await a potential or 24-hour production test before investing further. Many of the traders transferred their attention to the trend to the north, with some buying reported in the south half of Townships 19-1e and 19-2e.

A goodly crowd of oil men and interested observers were at the location when the well came in Sunday morning.

The crew started bailing in at 6 a.m. and had lowered the fluid slightly below 500 feet three and one-half hours later, when the well began heading, quickly cleaned itself and started flowing. In the first hour 450 bbls. of crude flowed into the tanks, with the flow increasing to 485 bbls. in the second hour, at the end of which available tankage was filled and the well was shut in for connections. The oil flow was accompanied by an estimated 10,000,000 feet of gas.

High-Gravity Oil

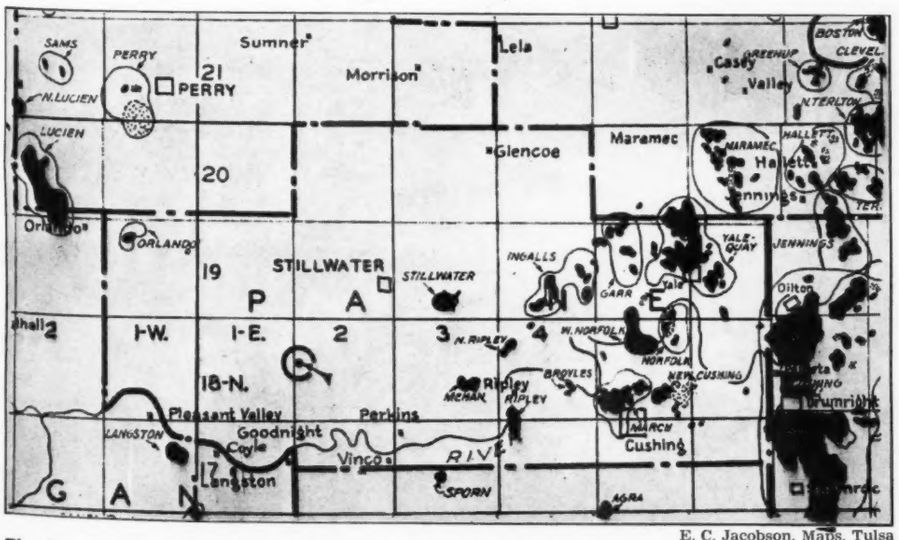
Gravity of the oil was 43.2 degrees, corrected from 44.68 degrees at the well.

The Oklahoma Pipe Line Co. began work Monday laying 1½ miles of 4-inch line to the well from its Oklahoma City-Edmond-Cushing line nearby. Testing of the well will be continued on completion of connections.

Top of the Wilcox sand was found at 4,768 feet, with pay from 4,780 feet to 4,795 feet, total depth, still in sand. The log of the well shows the following tops of other formations: Bartlesville sand 4,465 feet, Woodford shale 4,550 feet, Misener sand 4,570 feet, Hunton lime 4,580 feet with a showing of oil, Sylvan shale 4,625 feet, Viola lime 4,699 feet, Simpson Dense 4,733 feet, Dolomite 4,738 feet.

Location is about 8 miles southwest of Stillwater, Payne County seat, and about 10 miles southwest of the Stillwater pool, a small, unprorated area with six wells producing at the rate of 125 bbls. of oil daily.

The wildcat is near the center of a community block, comprising the W half of section 18-18-2e, and the E half of section 13-18-1e. Mid-Continent Petroleum Corp. owns three-fourths interest in the block, Carter Oil Co. has one-eighth interest and Sinclair Prairie Oil Co. and Transwestern Oil Co. have one-sixteenths interest, each. Lease owners of other nearby acreage include the Texas Co., Transwestern Oil Co., Seaboard-Western Oil Co., T. N. Berry, Carter Oil Co., Stanolind Oil & Gas Co. and Amerada Petroleum Corp., British American Oil Producing Co., Sinclair Prairie Oil Co., Ohio Oil Co., Carl E. Gungoll, Mid-Continent Petroleum Corp., J. W. Kuhns, J. W. Baldwin, Gardner Petroleum Co., C. S. French, Guy M. Troutman, R. L. Hancock and Sun Oil Co.



E. C. Jacobson, Maps, Tulsa

The Payne County wildcat discovery, indicated by the circle and arrow, is in an area surrounded by oil fields

Other Payne Pools

It is in a hitherto unproductive area which is surrounded on every side by oil pools. The eastern half of Payne County includes, in addition to the Stillwater pool, such old productive areas as the Ingalls, Garr, Yale, Norfolk, West Norfolk, New Cushing, Broyles, Ripley and Mehan pools, with the Orlando pool in the northwest corner of the county the only pool in the western part of the county. Total production for Payne County in November was 3,047 bbls. of oil daily.

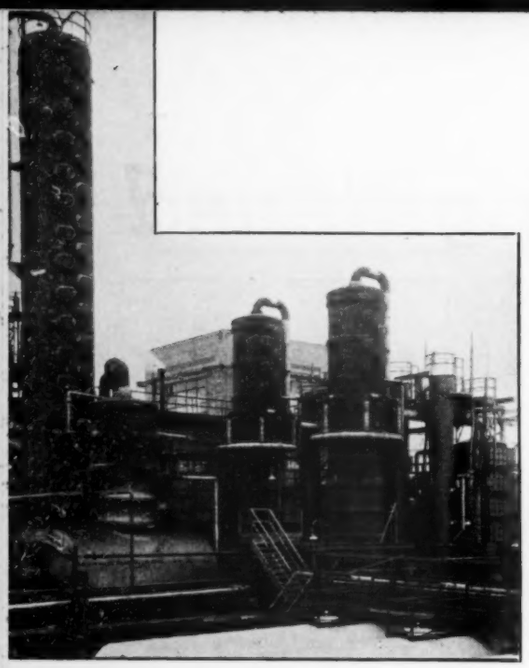
The great Cushing field, one-time pace-setter for the nation, is just east of the Payne County line, in Creek County. The Lucien field, an area of large Wilcox sand producers, is about 18 miles northwest of the Ramsey discovery and in Noble and Logan counties. The Langston pool, which was revived with a large producer in 1937, is about 8 miles to the southwest in Logan County. Other productive areas are found to the south in Lincoln County, to the west in Logan County and to the north in Noble and Pawnee counties.

The wildcat was drilled without benefit of surface geology, there being little or no such geology in that part of the state. Surface exploration and core drilling failed to reveal the structure, the subsurface structure being a seismograph discovery, found and checked by A. L. Beekley, head of the geophysics division of the Mid-Continent Petroleum Corp. The area also was shot by the Carter, Continental, Amerada and Stanolind companies.

Extent Is Questioned

Many observers do not believe the pool will be large in extent, but that it may provide big producers and long-lived wells. It checked some 300 feet higher structurally than a dry hole drilled to the southwest, seemingly bearing out the belief of some that the discovery well is located on a small structure which may not cover more than a section of land. A majority of the pools opened in that part of the state have been small in area, although some of them have had big production.

The Ramsey wildcat will be permitted to produce 15,000 bbls. of oil as its wildcat discovery right under regulations of the Oklahoma Corporation Commission. After that, it may be shut in to 100 bbls. of oil daily, in accordance with regulations.



Benzol recovery plant built by Koppers Co. at Bethlehem steel plant

Production of Oil

Shale Stimulat

As a result of the encouragement of home-produced fuels by means of fiscal advantages and other forms of artificial stimulation, considerably larger quantities of oil products obtained from coal and shale were used in substitution for petroleum products in certain European countries in 1937.

Processes for the production of oil from coal are divided into two kinds: those in which oil is obtained merely as a by-product of the treatment of coal and those in which oil constitutes the main object of the treatment. Last year both types of production were more active.

The increased demand for coke due to the activity of the heavy industries was responsible for a higher benzol output in several of the larger industrial countries in 1937. This was especially marked in the case of Germany, Great Britain and the United States. Benzol extraction at gas works also increased both in Germany and Great Britain. In Germany the installation of a benzol recovery plant at all large gas works is now practically compulsory. Low temperature carbonization processes have made some headway in Great Britain, where the type of coke produced finds a ready market as a domestic fuel for use in open fireplaces. In Germany this process is mostly applied to brown coal on account of its high yield of tar.

From the point of view of "self-sufficiency," processes having for their main object the production of gasoline or other liquid products from coal are, naturally, of greater interest. The processes so far utilized on a commercial scale are the Bergius high-pressure hydrogenation process, the practical application of which in connection with coal and lignite is due to the I.G. Farbenindustrie Germany and to Imperial Chemical Industries, Ltd., in Great Britain, and the Fischer-Tropsch method of synthesizing hydrogen and CO.

The decision whether further plants are to be erected in Great Britain will probably depend on the findings of the subcommittee of the Committee of Imperial Defense.

In France it was undoubtedly the original intention to erect one or two large plants, which probably, owing to financial considerations, have not yet materialized. The erection of a plant to hydrogenate the lignites of the Bouches-du-Rhone district is believed to be under consideration. There are at present two semi-industrial scale plants and one Fischer-Tropsch plant in operation in the north of France. It is impossible at present to give any reliable data regarding plants being erected in Japan, but the government's plans provide for the erection of hydrogenation and Fischer-Tropsch plants with a total capacity of about 1,300,000 tons to produce both light and heavy oils. It will require at least five years to bring these plans to full development.

The position in other countries is as follows: In Hungary independent experiments have been carried on for some years on tar hydrogenation with the support of the Hungarian government, but the government has not yet seen its way to finance the erection of a large-scale plant.

In Czechoslovakia plans for the production of gasoline from lignite are believed to be developing, but the exact site of the proposed plant does not appear to have been decided.

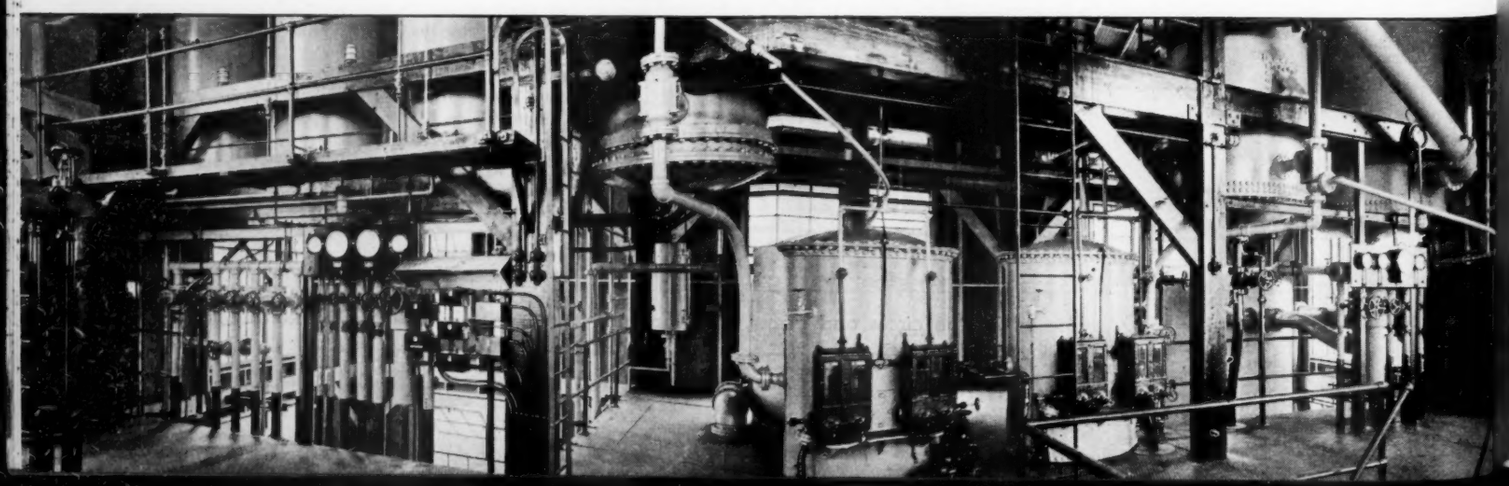
The government both of Australia and South Africa have set up official hydrogenation committees to study the possibility of producing oil from their own coal. The Australian committee, presided over by Sir David Rivett, recently issued a report which showed the uneconomic character of such methods of oil production, and this was shortly

PRODUCTION OF PETROLEUM SUBSTITUTES BY PRINCIPAL COUNTRIES, 1935-1937

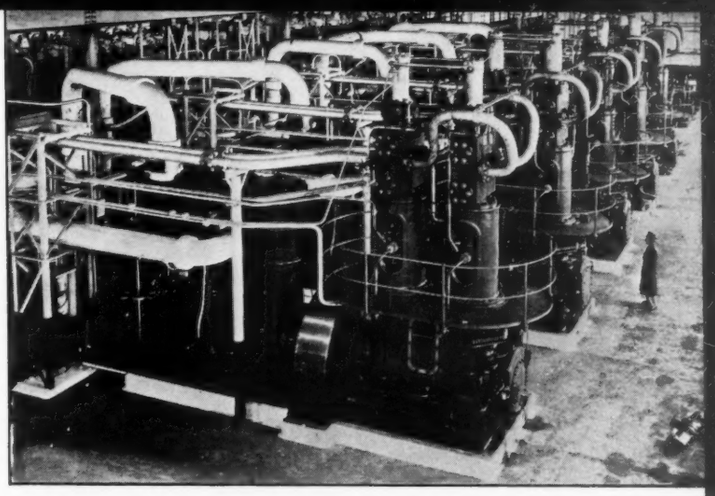
Country—	1935 No. of plants	1935 Planned capacity (M.T.)	1935 Estimated output (M.T.)	1936 No. of plants	1936 Planned capacity (M.T.)	1936 Estimated output (M.T.)	1937 No. of plants	1937 Planned capacity (M.T.)	1937 Estimated output (M.T.)
Germany:									
Hydrogenation	1	350,000	250,000	4	800,000	320,000	*5	840,000	750,000
Fischer-Tropsch	0	0	0	3	200,000	20,000	†4	250,000	200,000
Total	1	350,000	250,000	7	1,000,000	340,000	9	1,090,000	950,000
Great Britain:									
Hydrogenation	1	150,000	35,000	1	150,000	123,000	1	150,000	140,000
Fischer-Tropsch	0	0	0	0	0	0	0	0	0
Total	1	150,000	35,000	1	150,000	123,000	1	150,000	140,000
France:									
Hydrogenation	0	0	0	2	36,000	0	2	36,000	9,000
Fischer-Tropsch	0	0	0	0	0	0	1	20,000	3,000
Total	0	0	0	2	36,000	0	3	56,000	12,000
Italy:									
Hydrogenation	0	0	0	0	0	0	‡2	300,000	0
Fischer-Tropsch	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	300,000	0

*Additional plants now under construction, 4. †Additional plants now under construction, 7. ‡Under construction—completing 1938. May use crude oil as intake material

Operating floor of benzol refining plant



From Coal and ed in Europe



High-pressure machines for circulating hydrogen gas at Billingham, England

afterwards followed by an announcement of the Australian premier to the effect that the project of building a hydrogenation plant in Australia would not be proceeded with.

From a technical point of view, the hydrogenation process has proved capable of producing high-octane gasoline suitable for the requirements of present-day motor traffic, and it is understood that aviation gasoline can also be produced.

That relatively little progress has been made with the application of hydrogenation to the production of gas oil and lubricants from coal is probably largely on account of the greater interest of the governments concerned in the question of increasing domestic supplies of motor and aeroplane fuel. The hydrogenation process lends itself to the production of high-class lubricating oils, for which purpose brown coal is found to provide a more satisfactory starting point than bituminous coal. Nevertheless, this branch of synthetic production can at present hardly be said to have passed beyond the stage of experimentation and it is probable that Germany will not for a considerable period be in a position to replace supplies of lubricating oils derived from crude oil by synthetic coal products.

Neither in England nor in Germany has it yet been found possible to develop the production on the industrial scale of gas oils by hydrogenation, and the tendency has rather been in the direction of the treatment, or blending with other oils, of creosote and similar coal products in the hope of making the latter usable by high-speed diesel engines.

The product of the Fischer process consists mainly of hydrocarbons of the paraffin series, ranging from uncondensable gases to solid waxes. There is a gas-oil fraction representing about 20 per cent of the total product.

The primary motor spirit fraction (forming about 50 to 60 per cent of the total by weight) has a definitely low octane number. This can be improved by reform-cracking and by mixing the Fischer gasoline with cracked gasoline obtained from the gas-oil fraction and, if available, with a small quantity of polymerized gasoline which can be obtained from the olefine portions of the original gases produced in the Fischer-Tropsch reaction and of those from the cracking plant. In Germany the antiknock value is further improved by admixture of benzol or alcohol.

Up to the present the Fischer plants brought into operation have been of the order of 25,000/30,000 tons initial capacity, while hydrogenation plants are normally of 150,000 tons or higher annual output capacity.

Either process can use as its raw material either brown coal or bituminous coal. In the case of the Fischer process, bituminous coal is used in the form of coke and brown coal usually in the form of briquettes. The hydrogenation process can also be applied to such coal derivatives as creosote oil or low temperature tar and, where such products are available in sufficient quantities, this procedure commends itself on account of the advantage of being able to dispense with the mechanism for crushing and cleaning the coal and owing to the reduced hydrogen requirements.

The yield of liquid products by the hydrogenation process consists of 1 ton of oil from 4 tons of coal, while, by the Fischer process, a yield of 1 ton of liquid products is obtained from 5 tons of coke representing 6 to 7 tons of raw coal.

In 1936 a total of some 200,000 metric tons of finished shale oils was produced in European and Eastern countries, yielding 25 per cent gasoline.

The Scottish shale oil industry is of comparatively ancient standing and possesses a certain historical interest for the oil industry, since it was due to the existence of Scottish shale oil that the use of kerosene for illuminating purposes first became extensively practiced in Great Britain. The Scottish shale oil industry produces about 80,000 tons of liquid products per annum, including 30,000 tons of gasoline. The Estonian shale oil industry is of more recent growth and is being developed fairly rapidly. Production was about 30,000 tons in 1936, probably considerably exceeded in 1937.

The growing strategic and economic importance of petroleum has encouraged the Japanese in their endeavors to develop the shale deposits of Fushun. The chief of the fuel section of the Japanese mining bureau recently gave the output capacity of the industry as 150,000 tons per annum but production in 1936 was, in fact, about 85,000 tons of gasoline and fuel oil.

The South African Torbanite & Refining Co., Ltd., which commenced operations in the Transvaal in 1936, produced some 2,700 metric tons of crude shale oil in the financial year 1936-37. In spite of exemption from excise duty of 5 pence per Imperial gallon (about 8½ cents per American gallon) and large advantages in freight, the company apparently finds it difficult to market its gasoline in competition with the imported product.

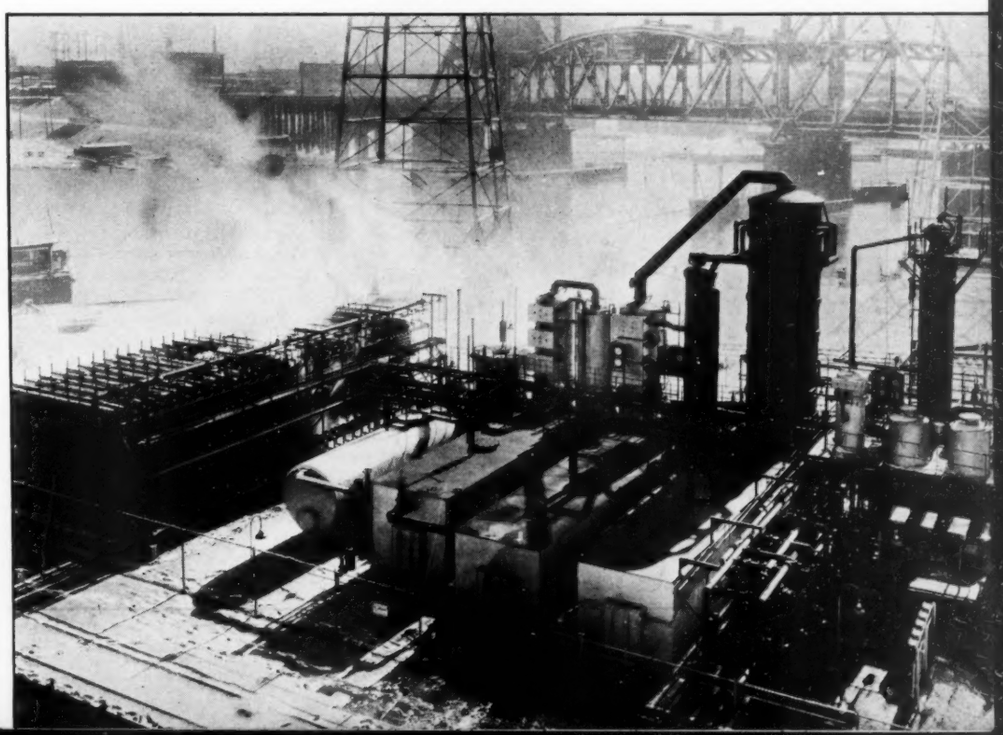
In Australia a company has been formed to develop the Newnes shale oil deposits in New South Wales. Parliamentary sanction has been obtained for the remission of the 5½-pence a gallon excise duty on quantities of shale gasoline not exceeding 10,000,000 gallons per annum, with the addition of special freight rebates over the state railways.

The total production of petroleum substitutes in 1936 was about 2,500,000 metric tons or approximately 1 per cent of the world's crude oil.

TOTAL CONSUMPTION OF BENZOL AND LOW TEMPERATURE CARBONIZATION GASOLINE AS MOTOR FUEL

	Metric tons		
	1935	1936	1937 (est.)
Africa, S.	1,900	1,600	2,800
Australia	8,600	11,100	12,000
Austria	4,600	4,900	5,200
Belgium and Luxembourg	26,500	30,000	30,000
Czechoslovakia	9,000	10,500	11,500
France	74,000	74,000	80,000
Germany	349,000	413,000	460,000
Holland	8,200	20,600	14,000
Hungary	2,500	3,000	3,000
Japanese Empire and Manchukuo	19,000	21,000	29,000
Poland	7,000	7,000	7,000
Switzerland	.....	2,500	3,000
United Kingdom	182,500	211,100	244,000
United States	260,000	352,000	416,000
	952,800	1,162,300	1,317,500

Plant of Koppers Co. at Kearny, N. J., which recovers light oil from which benzol is made at finishing plant elsewhere



Pipe Order, Marketing Contract, in Colombia and Venezuela

Orders for 250 miles of pipe and a marketing transaction involving the purchase of large quantities of crude oil on a long-time contract, announced during the past week, point to an expansion of oil operations in Colombia and Venezuela during the coming year.

The pipe, it is understood, will be laid north from the Barco concession in eastern Colombia connecting to a suitable terminal on the Caribbean Sea. This line when completed will mark the final step in a development program for the large Barco concession in eastern Colombia, adjoining Venezuela. This concession, considered one of the most likely oil reserves outside the United States, has been prominent in international oil discussions for many years. It was held for several years by Henry L. Doherty and associates who drilled one shallow test in the northern part of the concession in 1919.

In 1931 the concession was obtained by the Gulf Oil Corp. with the Carib Syndicate Ltd., one time owner, retaining 21 per cent of the stock of the Colombian Petroleum Co., the operating unit. Under the Gulf management considerable exploratory drilling was completed in both the south and north ends of the concession. Several producing wells were completed in the south (Petrolea) field. Development work was carried on in a remote jungle country inhabited with unfriendly Indian tribes. Last year the Gulf stock was acquired by the Texas Corp. and Socony-Vacuum Oil Co., Inc., which later also made an arrangement covering the Carib interest.

Since that time the development work in the field has continued. The plans regarding the pipe line are interpreted as indicating that substantial output has been proved. Under the concession agreement with the Colombian government the owners were obligated to build the pipe line when sufficient production had been discovered to justify its construction.

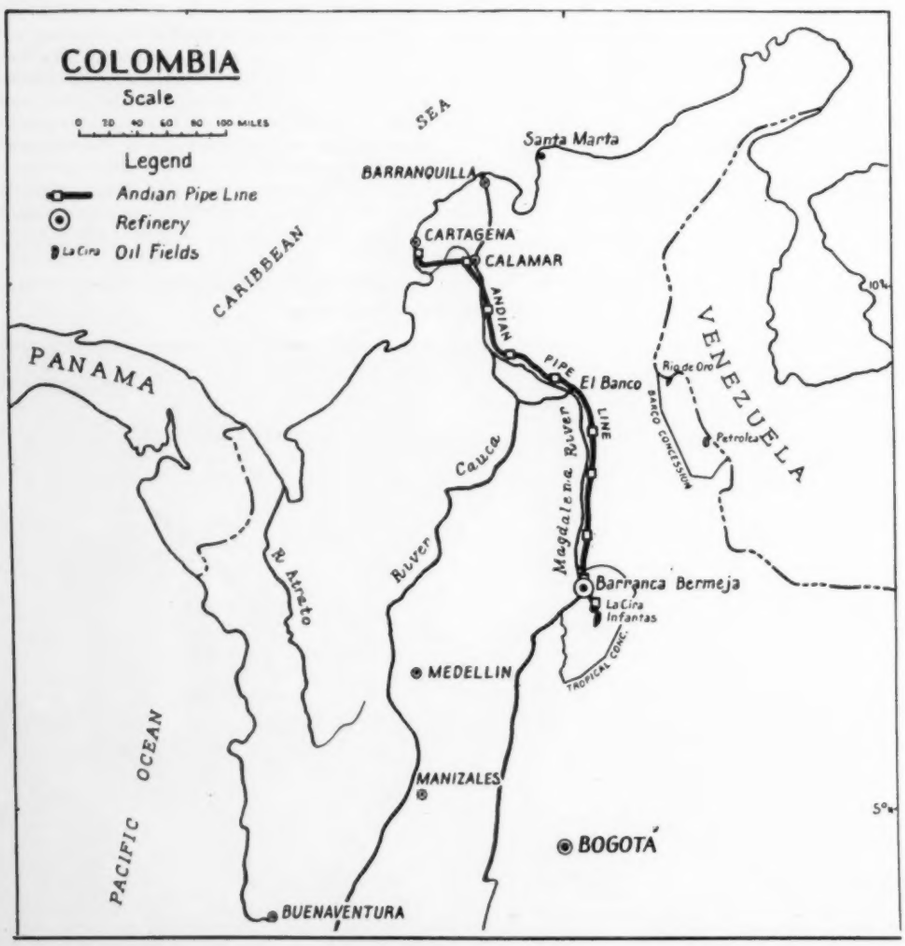
Gulf-International

The other important South American development of the week involved the purchase of crude oil by the International Petroleum Co. Ltd., from the Mene Grande Oil Co., a subsidiary of the Gulf Oil Corp., and one of the large producing companies in Venezuela. The International company is a subsidiary of the Imperial Oil Ltd., a unit of the Standard Oil Co. of New Jersey. The Imperial is the principal operating company in Canada.

The agreement involves an initial payment of $25,000,000 which will be used by the Gulf unit in expanding its operations in Venezuela. The company at present has a crude oil production of approximately 70,000 bbls. daily in Venezuela, all of which is in the Lake Maracaibo area. The production has been greatly enlarged over the past year due to increased output of the Tia Juana field.

It is believed that the Gulf company under the marketing arrangement with International will shortly make part of its newly discovered production in eastern Venezuela available through the construction of a pipe line outlet to the coast. The company has been carrying on an exploratory program in the states of Anzoategui and Monogas for several years and is generally credited with having discovered large oil reserves. The production is inland and the marketing of the crude will involve the construction of a pipe line over a hundred miles in length.

The Imperial Oil, Ltd., operates six refineries in Canada. Other Standard of New Jersey companies affiliated with the International and Imperial companies have large refinery capacity outside the United States.



Twelve and Three-fourths Inch Line

Although the project still lacks definite confirmation from Colombian Petroleum Co., outside information leaves little doubt that the company is preparing to build about 250 miles of 12¾ inch pipe line from the Barco concession. Contract is reported awarded to United States Steel Corp. and Republic Steel Corp. to supply the pipe for the line and it is known that inquiries have been made among several manufacturers for valves and fittings for the Colombian job. Several tons of pipe line for gathering arteries have been shipped to the Barco concession through Lake Maracaibo and via Venezuelan rivers.

Colombian Petroleum Co. recently disposed of $15,000,000 in notes to three insurance companies after they had been endorsed by the two parent organizations giving further credence to the pipe line project which will open world markets to the Barco concession.

The pipe line from the Barco to the northern shore of Colombia will be one of the most expensive projects yet attempted abroad. The line must rise from an elevation of a few hundred feet above sea level at the point of production to not less than 4,500 feet across the Andean mountains and possibly to greater heights, depending on the choice of routes. In the absence of complete information, it is regarded likely that the pipe line route will go almost due west from the Barco concession across the Andean range to the Magdalena River valley and from there north to the Colombian Coast. Andian Pipe Line Co., an affiliate of Tropical Oil Co., operates a pipe line along the right of way parallel to the river and this route would avoid cutting through dense jungle for a good part of the distance over any other route selected.

By Henry D. Ralph

President's Address Has Interest for Oil Men

WASHINGTON, D. C., Jan. 3.—Major oil and gas companies, as examples of big business units, may particularly feel the effects of the new business reform program outlined in general terms by President Roosevelt in his message to congress today.

Existing laws on the relationship of government to certain business processes require reconstruction, he declared, and he is preparing a special message on this subject, but until this message is delivered it is impossible to tell how the new business program of the New Deal will affect any particular concern or practice. However, the president may have had the oil industry in mind in discussing some of the things he says need correcting.

Integrated major oil companies may well be one of the targets aimed at in denouncing concentration of economic control, saying, "In some lines of industry a very small numerical group is in such a position of influence that its actions are of necessity followed by the other units operating in the same field."

Such remarks will give great encouragement to supporters of the Biermann bill and other legislation to divorce control of pipe lines and break up integrated oil companies, and should hasten enactment of the Lea natural gas regulation bill already passed by the house.

Many of the so-called abuses of capitalism and misuse of economic power listed by the president are not applicable to the oil industry, such as "the shifting of actual production from one locality to another in pursuit of the cheapest wage scale." But if the administration proceeds with reforms along the lines sketched in the message the industry will be hit in a great many places, for in spite of the president's assurance that he supports the profit system and his insistence that he is not attacking business generally but only a small group responsible for misuse of power, his listing of "certain wrongful business practices" suggests a long series of reforms in corporation policies which will alter the practices of almost every large business enterprise.

For instance, he listed high pressure salesmanship as an abuse which must be ended along with use of the patent laws to maintain prices, excessive capitalization, price rigging, collusive bidding, driving small units out of business, and lobbying against labor legislation.

In a somewhat different category, "which cannot be termed specific abuses," the president mentioned the problems arising out of concentration of economic control which cannot be justified on the ground of operating efficiency. Although he denied any obligation to protect incompetent business men and expressed the hope that business will cooperate to abandon practices which do not belong to this day and age and adopt price and production policies appropriate to the times, it is obvious that the possibility of legislation to alter the practices mentioned will entail uncertainty.

Conciliatory in Tone

On the whole the message was temperate and conciliatory in tone in spite of the president's criticism of certain business practices, reference to sabotage of his program, and determination not to go back on his objectives. His criticism of certain labor policies, albeit in mild language, can be taken as an effort to be objective and impartial. He is determined to push through wage and hour legislation, but his declaration that he is not seeking complete uniformity in wages nor an immediate and drastic increase in pay is assurance that this legislation probably will be so limited it will have little or no effect on the oil and gas industries.

The announcement that there will be no reduction in the general level of taxes and that federal expenditures cannot be reduced appreciably is discouraging to many business men, although not unexpected by realists who understand the difficulties of curtailing government activities. The bright side to this is that there will be no impairment of the government's scientific and statistical services.

Most significant is the fact that the president offered no surprise panaceas, no new white rabbits, to end the business recession such as he produced with such rapidity in 1933. His business reform proposals are not advanced primarily as recovery methods, and he took particular pains to point out several times that this program is not aimed at business generally but only at "a small minority who have displayed poor citizenship by engaging in practices which are dishonest or definitely harmful to society." Specific reform proposals await his special message, but it is significant that he expressed the hope this message will elicit the support of business.

The contrast between the situation in Washington today and that of a year ago is one of the most striking features of the opening of the new session of congress.

Striking Contrast

A year ago President Roosevelt entered his second term with one of the most sweeping electoral mandates ever given by this country. He took office along with a congress overwhelmingly dominated by members of his own party, most of them elected on the pledge to support him almost without question. Business conditions were on the upgrade, and recovery appeared in sight. Observers were unanimous in predicting that the president could obtain practically anything he asked of congress, and were generally agreed he would promote an "era of good feeling," that his reform program was virtually complete, and that 1937 would see cooperation and understanding between business and the administration.

This week the same congress returned to the job badly divided after having thwarted the president's program in many respects, economic conditions are at a critical recession point, and the administration has been berating business men, calling them names, and blaming them for the nation's ills.

Disintegration of the president's command of congress began, of course, with the attack on the Supreme Court, a fight which not only cleft the majority party but also delayed action on other parts of the president's program until opponents were emboldened to open criticism and opposition. It was completed during the special session which the president ill-advisedly called November 15 and which ran wild on his farm bill, shelved his wage-hour control bill, and ignored the other two measures for which he called it, government reorganization and natural resource planning, while at the same time consolidating opposition to the administration's corporation profit tax. Meanwhile business activity has slackened, and whatever cause economists may ultimately give for the recession there is at present a general feeling that in large part it is due to lack of confidence by business men in the policies of the administration.

Government Subsidy for New Tankers Available for National Defense

WASHINGTON, D. C., Jan. 4.—The Maritime Commission today announced an agreement under which the government will pay Standard Oil Co. (New Jersey) the additional cost required to make 12 tankers already contracted for suitable for conversion to navy use.

The tankers will be constructed in four shipyards over a period of 14 months to three years at cost to the company of $2,249,417 each, and the government's differential will be $880,250 each, or a total price of $37,566,004. Standard may release some of the ships to other companies on the same basis, and 34 American companies operating tankers have been asked to negotiate.

The new tankers will be of standard design developed by experts of tanker companies, the commission and the navy, with top speed of 18 knots and sustained sea speed fully loaded of 16½ knots; 12,800 hp.; 16,300 tons dead weight; 525 feet in length; 150,000 bbls. cargo capacity.

The principal national defense feature increasing cost is high speed which will permit the ships to accompany the fleet, but other features include gun foundations, magazine spaces, twin screws, gear for oiling at sea, heavy lift facilities, and piping arrangements to permit carrying four or more grades of oil.

The commission declared the navy dangerously deficient in tankers able to serve the battle fleet, saying it needs 20 ships of this type, but to build one strictly to navy specification would cost nearly $9,000,000. Under the present agreement Standard Oil will maintain ships at its own expense for 20 years but make them available to the navy if needed.

Other oil companies are discussing a similar agreement covering tankers of 12,000 to 14,000 dead weight tons because of harbor conditions under which they operate, and some are discussing diesel installation.

Commercial Helium Output Will Be Delayed Some Time

WASHINGTON, D. C. Jan. 1.—The Bureau of Mines said today commercial production of helium, authorized by congress after the Hindenburg disaster, would not begin for several weeks.

Roscoe A. Cattell, chief engineer of the petroleum and natural gas division, said a board of appraisers had been estimating the value of the holdings in Kansas and Colorado of the Girdler Corp. of Louisville. Its report must be submitted to the secretary of the interior and followed by a presidential order before manufacture of gas can be started at the government's Amarillo Texas plant.

Mr. Cattell said a recent report from Germany that a ship had left there for Houston, Texas, to transport helium to Europe by the end of January must be an error.

"We have received no word of the boat's sailing, and if it is en route to Texas, it has a long wait in store. It probably will take about three or four months before production can begin and enough of the gas manufactured to load the vessel."

The law, Mr. Cattell explained, provided the government might not sell the helium until the properties of the Girdler Corp. the only private commercial manufacturer of the gas in the United States, had been purchased by the government.

Pan American And Adams To Drill Deep Georgia Test

HOUSTON, Tex., Jan. 4.—Pan American Production Co. and Adams Oil & Gas Co., both of Houston, and others have completed preliminary surveys and blocking of acreage for the first deep oil test ever to be drilled in Georgia.

Although exact location has not been staked, drilling will be started in the near future. The block includes a large portion of Wayne, Appling, Pierce and Coffee counties in the southeastern part of the state. The former company owns 50 per cent interest and operating control in the project. Geological and geophysical reconnaissance was started two years ago, and the block has been taken on magnetometer and seismograph work by Independent Prospecting Co. of Houston. In addition to its interest in the joint block Pan American has leased several thousand acres to its own account.

Geologists and Paleontologists Elect New Presidents

WASHINGTON, D. C.—The Geological Society of America elected as its president Dr. Arthur L. Day, director of the geophysical laboratory, Washington.

The Paleontological Society, in joint convention with the geologists, elected as president, Dr. C. W. Gilmore, U. S. National Museum, and as vice president, Gayle Scott, Texas Christian University. Merle Cathcart Israelsky, United Gas Public Service Co., Houston, Tex., was elected a fellow.

The Society of Economic Geologists elected, a year in advance, its president for 1939—Arthur C. Veatch of New York City. Donald H. McLaughlin of Harvard University assumed the presidency for 1938.

Councilors elected for the years 1938-1940 included: Frederic H. Lahee, Sun Oil Co., Dallas, and Ira B. Jorelemon, San Francisco.

Royalite Reduces Crude Price in Turner Valley

The Royalite Oil Co., Ltd. has announced a reduction in the posted price for Turner Valley, Alberta, crude effective January 5. The new price is $1.26 a barrel. Along with the reduction the company lowered its pipe line and gathering charges so that a reduction of 1½ cents per gallon to be posted in the gasoline price may be equalized.

1937 Oil-World Exposition Announces Refund on Space

In accordance with the non-profit policy of the Oil-World Exposition Association, John R. Suman, vice president of Humble Oil & Refining Co. and president of the association, has announced that a 20 per cent refund will be made on the total amount paid for exhibiting space to all those who exhibited in the 1937 exposition.

The next oil show in Houston will not be held until 1939, dates to be decided by the directors. The time will be in the spring instead of in October. A questionnaire was sent to all exhibitors regarding the frequency with which oil shows should be held in Houston. Up to the present of the 193 replies 180 favor holding the Oil-World Exposition in Houston every other year, alternating with the International Petroleum Exposition at Tulsa.

Illinois-Indiana Association At Robinson, January 15

T. B. Steele, secretary-treasurer, announces that the annual meeting of the Illinois-Indiana Petroleum Association is to be held in Robinson, Ill., at the Woodworth Hotel, Saturday afternoon and evening, January 15.

Kansas Injunction Against Mahogany Dye in Gasoline

TOPEKA, Kans.—A temporary injunction restraining J. L. Grimes, director of the department of inspections and registration, from enforcing his regulation requiring distributors to put mahogany colored dye in all tax-exempt gasoline effective January 1, was issued by Judge Otis Hungate of Shawnee County district court.

The order restrains the state regulation until January 10, when the court will hear an application for a permanent injunction. The order was issued upon application of the Independent Gasoline Distributors' Association of Kansas.

The regulation would require distributors to purchase their dye from the state at three-fourths of a mill for each gallon of tax-exempt gasoline sold.

Standard Oil Twenty Year Club Organized by Sugar Creek Veterans

Organization of "The Standard Oil Twenty Year Club" of the Sugar Creek refinery advanced another step on December 15, 1937, when by-laws drafted by a special committee consisting of James E. O'Hara, Charles B. Shumate, R. E. Porter, H. C. Moore, C. E. Ewin, A. E. Hicks, Alex Nylund and H. O. Roth, were accepted with minor amendments. About 50 eligible employes attended the meeting at Eagles' Hall, Independence, Mo.

The oldest man present, in point of service, was Matt Delles, who began work with the company at Whiting in 1894, and the oldest in age was B. F. Soapes, annuitant, who began work with the company in 1899 and was retired in 1929. The temporary officers in charge of the organization are Alex Nylund, chairman, and Harry O. Roth, secretary. Regular officers will be elected at a meeting January 13, in Eagles' Hall at Independence, Mo.

C. F. Camp Expo Chairman For Drilling Contractors

C. F. Camp, secretary-treasurer of Arrow Drilling Co., Tulsa, has been appointed chairman of the International Petroleum Exposition drilling contractors' committee by President W. G. Skelly.

This committee will have charge of attendance and entertainment of drilling contractors during the exposition from May 14 to 21, at Tulsa. Mr. Camp said that as soon as his committee is able to hold a meeting it will decide which day of the exposition will be known as Drilling Contractors day.

Spring Meeting, Pacific Coast, Production Division, April 19

LOS ANGELES, Calif.—L. L. Aubert, chairman, announces the spring meeting of the Pacific Coast district, Division of Production, will be held on Tuesday, April 19, 1938, in the Biltmore Hotel, Los Angeles. The chairmen of the committees appointed to handle the various details of the meeting are: Program, Wendell M. Jones, Petroleum Equipment Co.; arrangements, J. W. Schmid, Republic Supply Co.; nominating, A. C. Rubel, Union Oil Co.

Tulsa Geological Society Holds Annual Election

At the annual meeting of the Tulsa Geological Society on January 3, R. J. Riggs, consulting geologist, Stanolind Oil & Gas Co., was elected president, succeeding Frederic A. Bush, chief geologist, Sinclair Oil & Gas Co. The other officers elected were N. W. Bass, U.S.G.S., first vice president; Clark Millison, consultant, second vice president, and Leslie A. Johnson, Sunray Oil Co., secretary-treasurer. The new editor is R. V. Hollingsworth of the Shell Petroleum Corp., and these officers with Frank A. Herald, of the Securities and Exchange Commission, and Glen S. Dillie, consultant, make up the executive committee for the society.

Frederic A. Bush discussed the Moore field, Cleveland County, Oklahoma, in his address as retiring president, and N. W. Bass read a memorial to the late John M. Alden.

Pittsburgh Traffic Club Dinner

The Traffic Club of Pittsburgh, Pa., will hold its thirty-seventh annual dinner on January 28, 1938, at the William Penn Hotel, Pittsburgh, Pa.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Real Purpose

In connection with the next meeting of the Interstate Oil Compact Commission at Oklahoma City, January 18, it may be well for the industry, and possibly some members of the commission itself, to re-read the provisions of the compact originally ratified two and a half years ago.

Recent developments in the industry have indicated that some of the problems that now confront it might more easily have been solved had the commission taken more seriously all the terms of the agreement between the states and the federal government.

For example, Article VI provides that it shall be the duty of the commission "to make inquiry and ascertain from time to time such methods, practices, circumstances and conditions as may be disclosed for bringing about conservation and the prevention of physical waste of oil and gas, and at such intervals as said commission deems beneficial it shall report its findings and recommendations to the several states for adoption or rejection."

Very little has been done by the commission towards carrying out the provisions of this very important article of the compact. Committees have been appointed but so far their records have been largely progress reports, with few recommendations of a definite nature.

Any study of present conditions in the industry and the proper function of the commission indicates the importance of the organization being a clearing house for uniform practices the general adoption of which is necessary before that body can carry out the main purpose of its creation.

The commission is in position to call upon the best engineering brains in the industry to assist in the study of operating methods which will best serve the needs of conservation and industrial stability. If funds are required a specific request from the commission to the member states could not be ignored.

Failure, so far, to prosecute this study has resulted in each state more or less pursuing its own course in conservation regulations with consequent wide variations in operating conditions.

One of the results has been charges and countercharges that certain states are being discriminated against due to the fact that other states are operating on an entirely different basis.

More specifically Article III obligates each state to enact laws which will prevent "the drilling, equipping, locating, spacing, or operating of a well or wells so as to bring about physical waste of oil or gas or loss in the ultimate recovery thereof," or "the inefficient, excessive or improper use of the reservoir energy in producing any well."

The states, operating individually, have been at variance in conservation regulations. It is becoming more and more apparent that the purpose of the compact will be nullified unless there is joint study of the problem with a view to bringing about uniform practices in this regard so that one state will not have an advantage over another.

If any state, by cutting corners, can secure a larger share of the market than it is entitled to, other states more rigid in regulations will question the value of such a compact.

There already have been threats on the part of operators in some states to throw overboard what has been done until such time as competitive operators and other states conform in the general acceptance and enforcement of the compact.

This situation needs to be aired and steps taken to carry out all provisions of the compact.

Herbert A. Meyer Chosen Director Of Kansas Oil Association

INDEPENDENCE, Kans.—Herbert A. (Hub) Meyer, formerly vice president of Sinclair Prairie Oil Marketing Co., Tulsa, has been made managing director of the Kansas Independent Oil & Gas Association, with headquarters at Wichita. As announced by E. B. Shawver, president of the new organization.

"We are very much pleased to have the services of Mr. Meyer," Mr. Shawver said. "He is thoroughly qualified to fill this important post and is conversant with affairs of the Kansas oil industry."

A native of Chillicothe, O., Mr. Meyer graduated from Staunton (Va.) Military Academy and George Washington University, Washington, D. C. He was assistant secretary Federal Railroad Securities Commission during the Taft administration; assistant to Secretary of the Interior Franklin K. Lane with administrative charge of the government railroad in Alaska, and territorial affairs of Alaska and Hawaii; and assistant to chairman of the American-Mexican joint commission. He served as captain in the army air service during the war and on discharge joined Prairie Oil & Gas Co. in 1919 and was assistant to the vice president in charge of crude oil purchases, storage and tankage. He served with Prairie at Ranger, Tex., Wichita Falls, Tex., Tulsa, and Independence, Kans. In 1932 when Prairie merged with Sinclair he was appointed vice president of Sinclair Prairie Oil Marketing Co. in Tulsa. He resigned the latter part of 1936 and returned to Independence, Kans., to engage in the investment business.

H. A. MEYER

Argentine Production Increases; Fuel and Gas Oil Imports Gain

Despite increased production, Argentina is still dependent to a material extent on imported petroleum to supply its requirements. During the third quarter of 1937, the latest period for which detailed statistics are available, crude oil imports increased to 155,101,044 kilograms compared to 133,377,416 kilograms in the second quarter.

Imports of fuel oil and gas oil also increased sharply while receipts of gasoline dropped from 5,035,311 liters for the second quarter to 543,805 liters for the third quarter. Diesel oil imports were also down sharply. Most of the crude oil imports to Argentina come from Peru which supplied 105,294,295 kilograms of the total for the third quarter. The United States supplied 34,511,098 kilograms, Colombia 13,793,651, Ecuador 1,500,000 and Bolivia 2,000 kilograms.

Most of the fuel oil, diesel oil and gas oil imported by Argentina come from Dutch possessions in Central America (Aruba and Curacao) where Shell and Standard of New Jersey have large refineries producing large quantities of those products from Venezuelan crude.

S.A.E. Announces Program For Next Annual Meeting

The Society of Automotive Engineers will hold its next annual meeting January 10-14 at the Book-Cadillac Hotel in Detroit, Mich. The last two days of the convention will be devoted to subjects of special interest to refinery operators and will provide time for papers and discussion on diesel engines, motor fuels and lubricants. The program covering this portion of the meeting follows:

Thursday, January 13

10:00 A.M.—*Diesel Engine:*

The Diesel as a High Output Engine for Aircraft—E. G. Whitney, National Advisory Committee for Aeronautics.

Diesel Engine Deposits as Influenced by Fuel Types and Operating Conditions—J. R. MacGregor and W. V. Hanley, Standard Oil Co. of California.

2:00 P.M.—*Fuels and Lubricants:*

The Reduction of Wear of Piston Rings and Cylinders—Macy O. Teetor, Perfect Circle Co.

Effect of Oil Characteristics on Wear in Aviation Engines—Dr. O. C. Bridgeman and M. L. Leidig, National Bureau of Standards.

What Is an E. P. Product?—J. A. Moller, Pure Oil Co.

6:30 P.M.—*Dinner:*

F. F. Kishline, toastmaster.
The Philosophy of Research—C. F. Kettering.
H. T. Woolson, president S.A.E.
C. W. Spicer, president-elect.
(Dinner limited to S.A.E. members and applicants.)

Friday, January 14

10:00 A.M.—*Diesel Engine:*

Diesel Supercharging; Its Effect on Engine Design Features and Performance—Russell Pyles, Clark Brothers Co.

General Consideration of the Supercharging of Diesel Engines—Harte Cooke, American Locomotive Co.

2:00 P.M.—*Fuels and Lubricants:*

C.F.R. Motor Survey—J. B. Macauley, Chrysler Corp.

C.F.R. Report on Road Tests, Road Test Planning Group—Presented by T. A. Boyd.

C.F.R. Report on Laboratory Tests, Laboratory Procedure Group—Presented by A. E. Becker.

Carburetion, Manifolding and Fuel Antiknock Value—Earl Bartholomew, Harold Chalk and Benjamin Brewster, Ethyl Gasoline Corp.

8:00 P.M.—*Fuels and Lubricants:*

High-Speed Motion Pictures of Engine Flames Correlated With Pressure Cards—Gerald M. Rassweiler and Lloyd Withrow, Research Division, General Motors Corp.

THE MARKETS*

CRUDE OIL: *Posted prices in Arenac and West Branch pools of Michigan reduced 29 cents per barrel to 80 cents. Gravity schedules announced for North Crowley and Roanoke fields in Louisiana. Crude markets generally firm, with increased deliveries by several pipe lines starting January 1.*

REFINERY: *Some improvement noted in gasoline movement from refineries starting first of year. Refinery gasoline and natural gasoline continue generally weak east of California. Better movement also needed in heavy fuels. Burning oils firm.*

TANK-WAGON AND POSTED DEALER: *No general changes in prices.*

FINANCIAL: *Oil stocks in most cases at close of year had lost all their gains of 1936 and 1937. Average of 30 representative stocks for week ending December 31: High, 28.50; low, 26.41; close, 27.42. Week ending December 24: High, 29.45; low, 27.97; close, 28.49.*

Detailed information in market section.

B. E. Sibley Elected Vice President Society of Automotive Engineers

B. E. Sibley, Ponca City, Okla., chief technologist for Continental Oil Co., has been elected a vice president of the Society of Automotive Engineers. He has been active in the affairs of the society for a number of years, serving on its technical research committees dealing with aircraft, bearings, and interior engine design and lubrication. He is also a member of the American Society of Mechanical Engineers, and for many years was chairman of its Rocky Mountain section.

B. E. SIBLEY

Veteran Employes Honored at Canadian Western Banquet

CALGARY, Alberta.—Some 375 persons attended the annual banquet of the Canadian Western Natural Gas, Light, Heat & Power Co. at the Hotel Palliser recently. Nine men received long-service buttons in appreciation of 20 years or more service with the company.

New Drilling Program in Poland Fails to Maintain Crude Output

Tempo of the drilling program in Poland where producers are striving diligently to prevent further recessions in crude output reached new heights in September. Reports from that country show addition of 30 new producers, but in all instances the initial output was very small, ranging below 100 bbls. per day.

During September, the crude oil production totaled 305,694 bbls. and refiners ran to stills just 2,300 bbls. less crude than the output. There were 26 refineries active during the month engaging 3,405 workmen.

Canadian Natural Gas Production Slightly Under Previous Year

OTTAWA, Ontario.—Natural gas production from all Canadian fields in September was 1,579,644,000 feet compared with 1,235,733,000 in Aungust and 1,520,748,000 in September, 1936. For the nine months of 1937 the output was 19,175,015,000 feet against 20,172,525,000 in the same period last year. Mixed gas (natural and artificial) imported into Canada in September amounted to 12,114,000 feet worth $7,873 compared with 12,690,000 feet worth $8,198 in August.

W. S. FARISH

Regarding 1938

FRANK PHILLIPS

By W. S. FARISH
President, Standard
Oil Co. (New Jersey)

The oil industry has made its best record for net earnings since 1929. With better earnings came a record production of crude oil, with increased demand both for domestic consumption and for export.

This pleasant experience of the oil industry came about through three principal causes: (1) an increase in consumption greater than had been anticipated; (2) a reasonably well balanced relationship between supply and demand; and (3) a fair level of prices. The extent of the increase in consumption was particularly gratifying even to an industry which has grown accustomed to sustained demand for its products. Only during the depression years, 1931 to 1934 inclusive, have the annual purchases of gasoline failed to register an increase over any preceding year since the first automobile was built. Even during the depression years the minimum annual consumption amounted to 90 per cent of that of the previous peak year, 1930. Because of this experience the industry looks forward confidently to a maintenance or even a small increase in demand in 1938, in spite of the recent and current decline in general industrial activity, and in spite of a probable reduction in exports which were unusually heavy through 1937.

Demand kept abreast of supply in fairly good order during 1937 in the face of intensified drilling and other activity in production and finding effort. America drilled more wells for oil in 1937 than in any previous year since 1920, when drilling activity reached an all-time peak. No outstanding discoveries were made, however, and the proven reserve situation remains, as it has for several years now, with annual additions through discovery roughly balancing annual withdrawals for consumption.

There is some tendency in the industry to overproduce its market, even with the quickened demand, and the end of 1937 will see gasoline inventories increased to levels considerably higher than sound economy dictates. It appears likely that we will enter the gasoline-consuming season in 1938 with 93,000,000 bbls. of gasoline in storage, 12,000,000 bbls. more than the wholly adequate stocks we had on hand at the corresponding date in 1937.

The satisfactory prices received by the industry in 1937 probably reflect the active state of industry in general through most of the year. It is worth while to note in this connection that gasoline users are still able to fill their tanks at prices (excluding tax) lower than prewar levels. This statement can be made of few other commodities.

All through the depression the industry has continued to increase investment and to engage in new construction. The year just ended has witnessed greatly increased operating and capital expenditures. The demand for greater quantities of products of improved quality has made this expansion imperative and the end is not yet. With an investment already amounting to some $13,000,000,000 the industry faces the prospect of continued large capital outlays through 1938. Its normal business, therefore, will necessitate substantial purchases of material and wide employment of labor during the coming year.

By AXTELL J. BYLES
President, American
Petroleum Institute

Production, discoveries, and completions were such during the year that reserves of petroleum in the United States remain at a satisfactory level. Improvements in drilling and production technique, the restoration of older fields and prolongation of the productive life of newer oil areas, plus the functioning of state conservation laws under the guidance of the state officials aided by the Interstate Compact Commission, augur well for the future.

Additional confidence may be found in progress in the science of refining, with more and better refined products being obtained from given quantities of crude.

By FRANK PHILLIPS
President, Phillips
Petroleum Co.

(Before Tulsa Chamber
of Commerce)

We are undoubtedly in a new cycle of business and national affairs and what the future holds for industry depends, in my opinion, largely upon action at Washington.

Government, labor and capital hold equally important places in our economic scheme of life. No one can function smoothly without the other two. Their relationships should be that of cooperation rather than antagonism. As we look over the past year we see a disappointing lack of cooperation. Business recovery cannot be accomplished as long as it is the policy of our administration to harrass business, while at the same time demanding that it reduce unemployment and increase wages. Confidence cannot be restored as long as the administration continues to break its promises to reduce expenses. It is impossible to legislate our way out of the depression with unsound laws. Labor cannot establish the security of permanent employment by destroying or discouraging capital which gives them their jobs.

I believe in high wage standards but these cannot be gained by government regulation and regimentation or labor ultimatums if they exceed the economic limits that industry is capable of paying. Capital's responsibility is to keep wages high by prudent management and efficient operations. I believe that private industry could reemploy all willing workers if the government would cooperate with capital by eliminating present tax barriers, by abandoning all uneconomic pump priming projects and restoring public confidence by putting its own financial house in order. This country has always been the land of opportunity and will continue to be so if all selfish highly organized political labor and business groups are curbed for the benefit of all. Therefore, I say that everlasting prosperity and security will be achieved when government, capital, and labor learn to cooperate, when class baiting is abolished and business antagonism by the administration ceases.

My confidence in the American people and their ability to govern themselves wisely and solve their economic problems inspires me with optimism for the future. Many changes are necessary for the good of all and I am confident they will be accomplished.

By J. W. VAN DYKE
Chairman,
Atlantic Refining Co.

Throughout the recovery period the oil industry has been noted for its achievements in spreading employment and increasing the purchasing power of its workers. In recent months, it has provided employment for 60,000 persons more than in 1933 and the purchasing power of its people is substantially greater than it was in 1929 despite the fact that they now work on the average 12 to 15 hours a week less than they did then.

Competition is still the best safeguard of the people from retrogression and the wastefulness of political bureaucracy. Nevertheless, it is threatened on all sides by legislative schemes to tax it out of existence, to put it in strait-jackets by the restrictive process of uneconomic licensing and by other arrangements which, as nearly as anyone can predict, would perpetuate inefficiency.

Granted suitable conditions, there are good reasons to expect an increase in demand for petroleum products during 1938 of upwards of 80,000,000 bbls. or as much as the combined annual consumption of France and Germany. This increase should make possible even greater operating efficiency than prevailed during the year just closed and confer still larger benefits upon the public. That way leads to a higher standard of living, which is the first objective of business and a goal worthy of spontaneous industrial team work.

By EDWARD G. SEUBERT
President, Standard
Oil Co. (Indiana)

Thanks to a strong increase in the consumer demand for petroleum products and to the favorite conditions early in the year, the oil industry has a generally good record for 1937. Employment was at a high stage in oil fields and refineries. Wages paid were among the best in industry anywhere.

As the turn is made into 1938 perplexities are growing. The industry has felt the general business recession to some extent and it is wrestling again with the old law of supply and demand. Latest statistics indicate a slackening of the rate

The Journal's

ANNUAL INDEX for 1937

is published elsewhere in this issue. Cross-indexed, and with articles carefully grouped by subjects and also alphabetically by authors, it demonstrates the unparalleled coverage of petroleum information afforded by The Oil and Gas Journal. A reprint of this Annual Index will be sent you without charge, upon request to the Journal's Tulsa office.

of increase in consumption. At the same time refiners have piled up stocks of gasoline as the result of their effort to supply a disproportionately large market for domestic fuel oil. Their effect on the market is not constructive.

Earlier, production of crude oil was at too strong a rate, but there have been indications recently of better adjustment in that important phase of the industry's activities. We hope that immediate difficulties may prove to be temporary and that the industry may find the new year as satisfactory in net results as was the year just ended.

By E. B. REESER
President,
Barnsdall Oil Co.

It is fair to assume that the consumptive demand in 1938 will be greater than ever. The industry will meet these demands without much difficulty but prudent merchants will not long continue to deplete their stocks at less than cost of refilling their shelves. It is a mistake to believe or to suggest that the present unremunerative prices to the consumer can long continue.

By COL. T. H. BARTON
President, Lion
Oil Refining Co.

The oil industry is ready to invest millions of dollars in new and improved plant construction in 1938, if the federal government will modify its present tax policy.

I am not pessimistic over the outlook for the petroleum business in 1938. The statistical position of the industry so far as crude oil is concerned is the best we have had in many years and the demand for petroleum products should suffer as little as any of the essential commodities in the event of continued business recession.

If relief from the extremely burdensome taxation which is now hampering business expansion is received from Washington, many millions of dollars will be invested during 1938 by the oil companies in additions to and construction of new plants and facilities. The manufacture and installation of this needed equipment will give employment to thousands of workers and contribute materially to the buying power of the nation.

By C. M. BOGGS
President, Western
Petroleum Refiners Association

Although the Mid-Continent refiners as a group established new records of production during the year and continued to supply almost one-fourth of the fuel consumed by the nation's motor cars, the price at which they were forced to market their gasoline as the year closed was from 30 to 40 cents a barrel less than the cost of production.

Several independent refiners were forced by the low prices to discontinue operations. Those remaining in business as the new year begins can anticipate further losses or complete shutdowns unless the cost of crude oil and labor are reduced or the market for their refined products is improved. The small independent refiner cannot continue indefinitely under present conditions.

In spite of the record demand for motor fuel for the 30,000,000 motor cars in the United States and the increasing demand for domestic and industrial fuels, tankcar prices of refined products were steadily depressed throughout the year. Government indices reveal prices of refined petroleum products as 40 per cent below normal, while the price level of general commodities increased to within 11 per cent of normal.

Refiners' payrolls increased materially in 1937 and, according to government reports were the highest of any American manufacturing industry. On the average the refinery worker's weekly pay envelope contains nearly $10 more than the average industrial worker. Refinery payrolls for the nation total $150,000,000 according to compilations of the American Petroleum Institute.

Improvements were notable throughout the year in the art of refining and the average Mid-Continent refiner produced more than 56 bbls. of gasoline for each 100 bbls. of crude oil processed. The other 44 bbls. of crude oil produced varying amounts of kerosene, distillates, fuel oils, road oils and asphalts.

Constant improvement in refining facilities and the addition of new cracking plants and the completion of new polymerization plants for the recovery of waste gases added to the efficiency of operation and to the quality of petroleum products marketed in the Mid-Continent area.

As 1937 began the independent Mid-Continent refiner was convinced that "only unexpected developments could prevent 1937 being the best year since the beginning of the depression." Those prospects were not realized and virtually every small independent refiner was operating in the red long before the close of the year.

By C. V. TERRELL
Chairman, Texas
Railroad Commission

The oil industry, so basic to the economy of Texas and for so many years afflicted by uncertainty and violent debate, had in 1937 its best year since, perhaps, 1929. I see no reason why it should not have an even better year ahead of it.

By RUSSELL B. BROWN
General Counsel, Independent
Petroleum Association of America

A careful study of the entire industrial outlook indicates continued use of petroleum products in spite of any temporary cessation of business. This would indicate continued activity on the part of each individual in the petroleum industry. There seems to be nothing at this time to indicate a reduction of employment or a material curtailment in the expenditures for replacements or new developments. To maintain this position, however, the oil industry will need to present a united front in support of sound policies as well as a united front against hostile legislative activities and unfavorable business policies which might develop during the year.

Nomenclature Map

A nomenclature map of the United States, showing oil fields in green and gas fields in red, with official field names as designated by the several state nomenclature committees, has been completed by E. C. Jacobson, Tulsa cartographer, who has prepared official nomenclature maps of many of the oil states.

The map shows states, counties and principal cities and towns. It has large-scale insets of such active oil areas as Michigan, Illinois Basin, western Kansas, Alaska, Rodessa, Texas Panhandle, Corpus Christi, Seminole and Fitts, Rio Bravo, Permian Basin and Los Angeles district.

Two years was required in compiling information and drafting the map. Mr. Jacobson had the cooperation of the geological surveys in the oil states in assembling the information.

OBITUARIES

STUART H. SIMPSON, 91, died in Oil City, Pa., December 26. He was a pioneer oil producer. With his brother, Thomas B. Simpson, he was a large buyer of oil in the middle seventies and when the Oil City Oil Exchange was instituted became a member and a large trader in oil certificates. He was a director in the Oil City Trust Co. for years, and was interested financially in other corporations. He owned oil production in a number of Pennsylvania Grade fields up to his death.

CLAY JOHNSON WEBSTER, 59, died at San Antonio, Tex., January 2. Born in Henrietta, Clay County, Texas. When but 20 years old he organized the First National Bank at Sulphur, Okla., and served as president for 14 years. He moved to Oklahoma City in 1910, organized the Central Reserve Bank and retired from the banking business two years later. He then entered the oil business in Kansas City, Mo., and was interested in various oil companies in Oklahoma and Texas, being one of the most active developers of the Mid-Continent field. At his death he was president of National Oil Co. and C. J. Webster Oil & Gas Co. of San Antonio.

W. M. W. Splawn Elected Chairman Interstate Commerce Commission

WASHINGTON, D. C.—Commissioner Walter M. W. Splawn has been elected chairman of the Interstate Commerce Commission, for the ensuing year, succeeding Chairman Carroll Miller.

At one time a member of the Railroad Commission of Texas, Mr. Splawn was nominated by President Roosevelt on January 8, 1934, to be a member of the commission. He was formerly professor of economics at the University of Texas and then president of that university. He served as special counsel for the committee on interstate and foreign commerce of the house of representatives and had charge of the investigation of pipe lines embodied in the report of 1933.

Harris & Ewing

WALTER M. W. SPLAWN

Arguments on Buying Program Delay Arnott's Testimony

By R. B. PYRE

MADISON, Wis., Jan. 4.—Resumption of prolonged argument today delayed the testimony of Charles E. Arnott, vice president of Socony-Vacuum Oil Co. as a defendant in the oil trial. Mr. Arnott, characterized by the prosecution as the "master mind," was to have been called at the opening of today's session.

The argument proceeded, however, over defense attempts to describe the 1934 gasoline buying programs sponsored by the government after the court had ruled that Dr. John W. Frey of the Petroleum Administrative Board might be recalled to the stand to testify further as to the fact that Mr. Arnott was not asked to stop the 1935 buying program.

After holding Monday that subordinates at Washington should have reported to their superiors if they knew the antitrust act was being violated, Judge Patrick T. Stone today said if Doctor Frey thought there was no violation of law in the buying plan headed by Mr. Arnott it would not be his duty to speak up.

"Maybe I'm expecting too much of a geologist," the court said.

Van Covern's Opinion

Fred A. Van Covern, statistician for the American Petroleum Institute, was permitted last week over government's objection, to express opinion purchasing by major companies in 1935 could have had only a temporary and incidental effect upon the market and could not have forced prices any higher than they would have gone under the natural law of supply and demand.

He told the jury there was an inevitable upward trend and the market situation was "inherently strong enough" to send the price of gasoline to a parity with that of crude oil regardless of the buying program.

Van Covern injected a new element as bearing upon the reason for a second period of advancing tankcar prices when he declared a drop in May, 1936, and a subsequent return to previous levels was due to the production situation in the Rodessa field of Louisiana. For a time it was feared the Rodessa field would create another East Texas situation, he explained, but as long as no octane gasoline came into the market from this area the price was not affected. However, during May, 1936, regulations in Louisiana were relaxed and increasing quantities of octane gasoline invaded the market, causing a temporary drop until the situation was straightened out again in July and August.

Van Covern referred also to the interstate oil compact of 1935 as a factor, along with the Connally act, the unprecedented demand and other elements, in causing higher prices. Until congress approved the compact by which oil producing states joined to regulate production, they had no right to join in such agreements, he said.

"Why didn't they have any right?" demanded Chaffetz.

"Because it was illegal, and the Circuit Court of Appeals so held," Van Covern replied, and T. W. Brazeau, attorney for Cities Service, added that the United States constitution permits compacts between states only on authority of congress.

Judge Stone sustained government objections to introduction of graphs showing the downward trend of gasoline prices in 50 representative cities from 1918 to 1936, charts showing the general rise in prices of all commodities in 1935, and comparisons of wages paid in oil industry from 1932 to 1936, although the defense contended the wage comparisons were material not as bearing upon reasonableness of activities, but as showing factors contributing to increased prices.

Blackstone

SIDNEY SWENSRUD

The judge, however, made a special announcement to the jury which was interpreted as an offset to his previous "waste of time" remark. Informing the jurors the case was on "the home stretch," he assured them that while certain evidence has been ruled out, neither side has been "wasting any time."

Judge Stone inferred Monday that subordinates in the code administration were "derelict in their duty" if they knew the Sherman act was being violated and failed to report to their superiors, and he voiced an impression that the enforcement machinery should have been set in motion in 1935 rather than 1936. Men big enough to hold positions on the PAB should have enough initiative to recognize and act upon a violation of the antitrust act, he said.

His statement was made during argument on defense offers of proof as to "why the buying was not stopped"; why the May 8, 1935, meeting was called; on interpretation of the Ickes letter; on the section of the code relating to stabilization work; on the alleged official statements that the tankcar committee's work was considered "useful"; on dumping of gasoline as an unfair trade practice; on activities of the PAB to bring about parity prices, and on the nature of the 1934 buying programs.

These arguments followed brief cross-examination of Van Covern, which was confined to his "difference of opinion" with the Bureau of Mines in regard to the desirable inventory level. Judge Stone conceded, at the outset of the argument, in the jury's absence, that distress gasoline was a factor in the price wars, and thereby revived all over again the ground covered in previous arguments over the Ickes letter.

Another Ickes Letter

Chaffetz was permitted, although the defense protested it was not in evidence, to read another letter from Ickes to Arnott on April 2, 1935, in regard to complaints from jobbers who claimed they were oppressed by moratoriums on dealer accounts. The letter was broad in scope, Chaffetz contended, and was written in the realization that agreements to eliminate price wars were likely to be monopolistic. It informed Arnott agreements involving the antitrust act and in which activities were over an extended period, involving a change in company policy depending upon similar activities by other companies, must have specific approval.

Goldthwaite Dorr, attorney for Arnott, declared approval, under NRA, was required only if the immunity section was applied and added that the law did not empower even the president to authorize monopolistic practices. It was never intended that informal programs such as the buying plan should require approval, he said, and he expressed belief Ickes did not consider purchasing of distress gasoline illegal as indicated by his report to congress.

The plan, in its entire essence, was a voluntary effort, natural, not artificial, and within the spirit of the recovery act. "It is unfortunate that we have to be faced with this prosecution," he added.

When Lewin declared Ickes' letter of July, 1934, did not mean the government had "abdicated" or delegated Arnott to "go out and do anything he pleased," Dorr again said he knew of no power held by Ickes or any other official to "tell Arnott to violate the antitrust act." But Ickes told Arnott to obtain voluntary cooperation in "removing an unhealthy condition," he said.

"Doing things to put industry on a profitable basis was not considered dishonest in the days of the code," he declared.

The defense called two expert witnesses last week in its endeavor to prove that the indicted companies could not have maintained an "artificially high and noncompetitive" price level as charged, and that the allegedly unlawful gasoline buying program of 1935 and 1936 was not responsible for the rise in prices.

Major significance was attached by the defense

to evidence brought out unexpectedly during government cross-examination of Sidney A. Swensrud, Cleveland, Ohio, former member of the Harvard business school. Swensrud, now assistant to the president of the Standard Oil Co. (Ohio), testified from government Bureau of Mines figures that gasoline prices rose higher outside Standard of Indiana territory during the three months in 1935 when the defendants are accused of having "rigged" the midwest market than they did inside the area. He also declared prices fell lower in this area than on the outside during the period preceding the alleged conspiracy and that the average price for 1934 as a whole was higher than the average price for 1935.

Climaxed by a defense demand for a mistrial and its prompt refusal by Judge Stone, the first session of the trial after the Christmas recess was the "hottest" of the case to date. It was marked by constant bickering between counsel which occasioned repeated warnings from the court, who characterized the scene as a "saloon brawl."

The demand for a mistrial was made by Col. Donovan, who challenged a remark by the court as "unfair." John H. Lewin, of the prosecution staff, had objected that the defense was "killing time" when it called two Pennsylvania refiners as witnesses. Donovan, who later offered proof that the federal petroleum administration board considered sending C. E. Arnott's tankcar stabilization committee into Pennsylvania because of its "useful and constructive" work in the Mid-Continent field, resented the remark and demanded that the court instruct the jury to ignore it. Having ruled out several documents offered as paving the way for the evidence, however, Judge Stone added his own belief that it was a "waste of time."

"I must object to the court's remark as unfair to me as an officer of this court," Donovan answered. "I am, with great reluctance, now asking that the court direct the withdrawal of a juror and a continuance of this case."

"Motion denied," Judge Stone ruled, and the jury was excused while Donovan explained that if allowed to testify Stuart M. Vockel, Pittsburgh, president of the Waverly Oil Works Co., and W. J. Brundred, Oil City, Pa., vice president of the Pennsylvania Oil Producers Association, would tell of negotiations with the petroleum administration board over their difficulties in operating under the existing discrepancy between the cost of crude oil and the price of refined products.

The offer included a letter from E. B. Swanson of the P.A.B., predicting that the Pennsylvania price would be brought in line within a few weeks as a result of the "useful and constructive" work in the Mid-Continent field. Swanson's prediction was not borne out, however, and further correspondence included the proposal to send Arnott's committee into Pennsylvania.

The judge sustained government objections to the offer of proof and repeated his warnings against bickering.

"The court is not going to permit any more shouting and roaring," he decreed. "It doesn't intimidate the court nor impress the jury and I don't want any more of it."

"I submit," Donovan answered, "that my conduct throughout this case has been strictly within the rules laid down by the court. I was not roaring at you and I haven't roared at you at any time. I submit that my conduct has not called for any such remarks as your honor has made."

The outburst occurred while Dr. John W. Frey, former member of the P.A.B., now associate director of the oil conservation division in the department of the interior at Washington, was on the stand.

Ickes' Attitude

Through Doctor Frey, the defense succeeded in showing that Harold L. Ickes, secretary of the interior, had encouraged action to bring about parity between the prices of gasoline and crude oil. When Judge Stone confined what Ickes said in that respect to the period after March 12, 1935 (the date when Arnott reported the major company buying plan to the P.A.B.), Doctor Frey declared Ickes, in April, after submission of the report by the Blazer code survey committee on small enterprises, had said, in the presence of P.A.B. members, that if parity did not come about within three or four weeks he would call a meeting of oil industry representatives "to see what could be done about it."

Amos L. Beaty, attorney for Phillips Petroleum Co. and former member of Planning and Coordination Committee; and Frederick Wood, attorney for Sinclair Refining Co. Mr. Wood was counsel in the Schecter case which overthrew NRA. He has just been retained as counsel for Henry Ford in the National Labor Relations Board suit

In connection with the P.A.B. meeting of May 8, 1935, at which Arnott allegedly was told the Ickes letter of July 30, 1934, did not give him authority to conduct a buying program, a new attempt was made to introduce the Ickes letter delegating Arnott to stop "price wars." Arguing the necessity that it be admitted, Goldthwaite Dorr, attorney for Arnott and the Socony-Vacuum Oil Co., told the court the defense is not claiming "an iota of immunity" under the letter, nor that it gave authority to "violate the antitrust act," but that it was important in judging the "reasonableness of our efforts."

There was a hot discussion at the May 8 meeting, he said, but after it was all over, all present recognized that they were engaged in a common purpose "and agreed that this plan was succeeding where the code had failed and that the time had come to get things done not by compulsion but by reason."

The meeting was called, Doctor Frey said later, partly at the request of the stabilization committee, which came to Washington to ask that certain limitations placed upon its activities be lifted. The limitations resulted, he said, from complaints of jobbers and other dealers protesting their nonrepresentation on the stabilization committee and against the holding of "closed" or "secret" meetings. The committee protested that it was not always possible to have a government representative present and that it was not always desirable that all elements in the industry be present, he added.

The question of "authority" for the buying program was raised by Chairman Charles Fahy, said Doctor Frey, and it came into the meeting incidentally. The meeting "opened warmly," but ended up much better, he asserted. Arnott appeared "rebellious" at the outset, and came "in a frame of mind to tear up the place," because he thought "we had double crossed him," but Doctor Frey explained, "after we got to understand each other, things calmed down."

Arnott said he was not relying upon the Ickes letter, Doctor Frey testified, and reported that the buying from independent refiners was on an informal basis, with the tankcar committee supplying information as to where the distress gasoline was and bringing it to the attention of companies in a position to buy it.

"We did not understand there was any pool, nor that there were any required purchases," he said, but the court sustained a government objection when Donovan inquired as to the nature of buying pools approved under the code in 1934.

It was decided at the end of the meeting to send two representatives to Chicago to work with Bernard L. Majewski (a member of the stabilization committee), Doctor Frey declared, but he was not permitted to continue on that subject.

When he testified that Arnott "did not ask our blessing," the witness explained, the phrase was his own characterization and not the exact words of Arnott.

On cross-examination, Doctor Frey affirmed that Arnott said he was sponsoring the buying program on his own authority, but denied saying Arnott declared he was "acting on the advice of his own attorney," as suggested by the examiner.

While the report of the Blazer committee was ruled out by the court in response to a government objection, together with five letters from Administrator Ickes to members of the committee and telegrams exchanged between Chairman Paul Blazer and Chairman Fahy of the P.A.B., Judge Stone admitted in evidence a press release from the interior department announcing the Blazer committee's recommendations.

Doctor Frey had testified that the board had decided neither to challenge the report nor approve it, but to make it public, and the press release came through Ickes' office. The committee headed by Blazer, an independent refiner of Ashland, Ky., had recommended that if the wholesale price of gasoline did not advance to approximate parity with the $1 posted price of crude oil within 30 days, an immediate reduction of 5 cents a barrel be made in the price of crude.

Donovan demanded that the report be accepted as bearing upon the government's charge of "furtiveness and secrecy" and the alleged acquiesence of a government agency in the activities of Arnott's committee.

Frederick Wood, attorney for the Sinclair Refining Co. and newly retained counsel for the Ford Motor Co. in its battle with the National Labor Relations Board, joined Donovan in the argument, declaring knowledge and acquiesence by government authorities also bears upon the "reasonableness" of the oil companies' conduct. He cited the California-Hawaii sugar case, a price-fixing action in World War time, in which the defense was permitted to establish the acquiesence, not of the attorney general himself, but of a subordinate—the district attorney for northern California.

The way was opened to Swensrud's most significant testimony when Judge Stone overruled a government motion to exclude evidence of "potential competition" which the defense contends would have broken any "artificial" price level the defendants might have attempted to establish.

Would Give Opening

If an arbitrarily high and noncompetitive price was established, in Madison, as a typical city in midwestern territory, this city immediately would became a market for refiners in Pennsylvania, the Gulf Coast, Kentucky, Montana, Wyoming and other refining centers just outside Standard of Indiana territory, Swensrud said.

Answering a series of hypothetical questions based upon allegations in the indictment that the defendant companies controlled 85 per cent of the production in the Mid-Continent area, the witness testified in support of the defense claim that the 1935 price level was "natural and competitive."

He produced tabulations from U. S. Bureau of Mines reports to show that instead of controlling 85 per cent, the defendant majors and the independent refiners named but not indicted as co-conspirators, controlled only 68.3 per cent of all primary production capacity in 1935 and 69.4 per cent in 1936; besides 74 per cent of all cracking capacity in 1935 and 74.9 per cent in 1936.

Assuming the allegations in the indictment were true, however, he was asked whether, in his opinion, it would be possible for the defendants to have maintained prices at artificial and noncompetitive levels.

"I do not think they could have," he replied, explaining that even if they did agreee upon a fixed price, gasoline would begin immediately to flow into the territory from nonparticipating refiners within the area and others in outside refining districts.

Under such conditions it would be no more possible to maintain a high price than it would be to raise the level of a river by building dikes part way along its banks, Swensrud maintained. And under such an agreement, he continued, the market would be handed to the outside refiner "on a silver platter."

"If I were a refiner on the outside I would regard it as a fine opportunity to increase my business," he said.

If an arbitrary price were set, Donovan asked, would there be a tendency to sell on contract at lower prices?

This would be inevitable, the witness testified, as jobber contracts expire at various times and competing oil companies would not have difficulty in signing a sufficient number of jobbers to force the suppliers included in the agreement either to reduce their prices or lose their business.

Nor, he said, would freight rates be an important factor in keeping out gasoline from other refining districts. The Gulf Coast, he explained, is the largest refining center in the world, and the difference in freight rates from the coast to Madison would not be sufficiently greater than those from Group 3 to exclude the influx. The cost of transporting a gallon of gasoline from Oklahoma to Madison is 2.83 cents a gallon, while the rate from the Texas Gulf Coast is only .27 of a cent higher and the rate from New Orleans .06 of a cent less. Also, Swensrud pointed out, water transportation would be an added important factor.

"Water transportation into the Mid-West is not a fantastic idea," he said. "It is actually going on." And water rates are even cheaper than rail transportation, he added.

Swensrud testified that the 16 major companies remaining among the defendants in the case control 56.8 per cent of all the "skimming" capacity in the Mid-Continent area and 65.1 per cent of the cracking capacity, while independents not connected with the alleged conspiracy controlled, in 1935, 56.85 per cent of the skimming capacity of all independents and 46.95 of the independent cracking capacity.

The indictment charges that the defendant majors bought, in pursuance of the alleged conspiracy, more than 50 per cent of all the gasoline sold by the alleged co-conspirator independents on the spot market. Assuming this were true, Donovan asked, and that 56.85 per cent of the independent capacity were not controlled, would it be possible to maintain an "artificial price?"

"No, I don't believe it would," said Swensrud, adding that the 50 per cent purchased by the defendants, plus the 56.85 per cent of all independent capacity not controlled, would be sufficient to "invade the area and prevent a price from being maintained."

And it would not even be possible for companies controlling 74 per cent of all cracking capacity to fix and maintain a price, he added.

On cross-examination, Swensrud tended to minimize the importance of established brands as an obstacle to invasion of the field by outside refiners and their attempts to persuade jobbers to accept new contracts, although H. E. Chaffetz of the prosecution staff pointed out that jobbers, testifying earlier in the trial, had said trade acceptance was an important factor in determining their selection of a brand and pointed to the advertising cost of introducing a new product.

Force of Competition

"If a jobber had his trade well established, he wouldn't have much difficulty in selling the new product," Swensrud contended. Moreover, he added, a period of artificially high prices would be an opportune time for invasion of the field by a refiner desiring to establish himself permanently.

A difference of only one-fourth of a cent a gallon would be more than enough to meet the jobber's customer's advertising expense and the loss of customers demanding the old brand, Swensrud said.

Also under questioning by Chaffetz, Swensrud produced the figures comparing prices in Standard of Indiana territory and elsewhere during the alleged conspiracy period.

In 10 index cities within Standard of Indiana territory, his statistics disclosed, the average retail price of regular gasoline, less tax, on March 3, 1935, was 12.63 cents a gallon, and three months later, on June 1, was 13.35 cents, an increase of .72 cent. In 40 cities outside the territory the average price on March 3 was 13.26 cents, and on June 1 was 14 cents, an increase of .74 cent.

Swensrud also testified that for the entire year of 1934, gasoline prices in 40 cities outside the territory averaged 13.74 cents, while in 10 cities within the area the price for regular gasoline averaged 13.23 cents in 1934 and 13.05 cents in 1935.

Figures contrary to the government's theory also were produced by Swensrud in response to a question by Judge Stone, who asked whether the production capacity in Wyoming and Montana was sufficient to supply that territory and in addition ship gasoline into Standard of Indiana territory.

Searching through his portfolio, Swensrud found reports showing that the production capacity in the two states was more than three times the consumption in 1935. The capacity was 584,000,000 gallons and the consumption in Montana and Wyoming 167,000,000 gallons, he said.

Swensrud was followed on the stand by Arthur P. Dyer, Dallas, Tex., former state chairman for marketing under the petroleum code, who presented figures showing the effect of East Texas "hot" oil on market conditions in early 1935. Dyer, declared "hot gasoline" made the task of stabilization "almost insurmountable," until the Connally act became effective in March.

"Fortunately," he said, "little 'hot' gasoline moved out of East Texas after March 1, due principally to operation of the act forbidding railroads to transport any gasoline without federal tenders.

"During the two months immediately preceding that period, however, the great bulk of hot gasoline shipments from that field came into midwest territory," Dyer reported. "Out of 118 carloads shipped from East Texas in January, 116 went into this area, and in February, of 317 carloads shipped, 287 came into Standard of Indiana territory."

Statistical Position

Fred A. Van Covern, who was formerly statistician for the Planning and Coordination Committee under the petroleum code, was allowed to present figures showing the increase in consumption during 1935 and 1936, withdrawals from storage, reduction in inventories, and other factors bearing upon the "statistical position" of the industry.

In his opinion, Van Covern stated, the price increase which the government claims was engineered by the defendants actually started in October, 1934, rather than in March, 1935, but the court sustained a government objection to introduction of factors governing price changes in that year which, prosecution counsel declared, had been "ruled out a dozen times."

Indirectly, however, Van Covern was able to place before the jury several facts bearing upon the defense claim that the buying program was not the major factor in the upward trend of prices during March, April and May, 1935.

For 1935 as a whole, he said, gasoline demand increased 7 per cent over 1934 and the 1936 demand increased 9.5 per cent over that of 1935. the trend in the midwest generally following the trend throughout the United States.

Throughout 1935 and 1936, Van Covern testified, the United States Bureau of Mines consistently underestimated the expected demand from month to month, but that was no reflection upon the bureau's reputation for reliability, he explained, as everybody throughout the industry was surprised by the unforeseen consumption. For 1935 as a whole, the bureau underestimated demand by 850,000,000 gallons, and for 1936 by 350,000,000 gallons, he said.

And while the gasoline inventory position was in complete balance during 1935, he declared, the production of crude oil was approximately 60,000,000 bbls. in excess of the Bureau of Mines recommendations. He accounted for a decrease of stocks during 1935 and 1936 in the face of this increased production by the development of a demand so great that it not only absorbed the production but necessitated withdrawal of 50,000,000 bbls. of crude oil from storage.

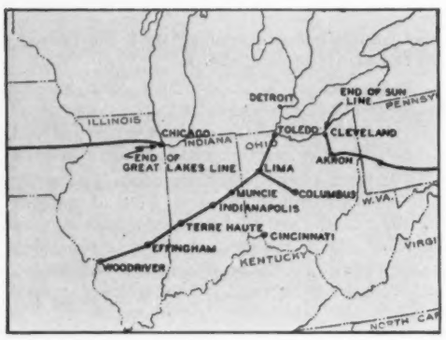
Petroleum Exports from U.S.S.R. Likely to Decline This Year

Petroleum exports from the U.S.S.R. will total less than 12,000,000 bbls. this year, unless a radical change develops in statistics for the past two months.

Pipe Line Activity

Shell Gasoline Pipe Line to Be Extended to Toledo and Columbus

The 8-inch gasoline pipe line being laid by Shell Petroleum Corp. from its modern 43,000 bbl. refinery at Roxana, Ill. will not stop at Indianapolis, Ind. as originally announced. (Aug. 12, 1937, page 37) but will



Course of new Shell gasoline pipe line from Roxana (Wood River), Ill., to Toledo and Columbus, Ohio

continue to Lima, Ohio and from this point two 6-inch lines will be laid, one to reach the Great Lakes at a point near Toledo and the other to Columbus, Ohio.

The extension of Shell's plans calls for an additional expenditure of about $2,000,000 and brings the total amount to be spent on the project up to $5,000,000.

The accompanying map indicates the route of the new line and it is significant that Shell is building a system that reaches such a concentrated gasoline market without coming into direct competition with existing gasoline lines. It is also significant that Shell's pipe line will pass through such important refining centers as Toledo, Lima and Columbus. At these points are located refineries of Gulf, Pure, Standard of Ohio and Sun companies and these refineries account for 76,000 bbls. of the state's 123,000 bbls. total refining capacity.

By extending the line to Toledo, Shell is given an outlet on the Great Lakes on the east side of Michigan and this eliminates the need to transport gasoline northward and around the state of Michigan on its way to eastern lake markets. The latter is necessary when gasoline is shipped by tanker from the company's 30,000 bbl. plant at East Chicago, Ind. The East Chicago plant will probably turn over a large share of this business to the Roxana (Wood River) plant in the future.

The new Shell line may ultimately become an important agency for use by refiners who utilize the pipe line facilities of Great Lakes Pipe Line Co. or Phillips Petroleum Co. system and want to reach the Indiana and Ohio markets by pipe line. Physical connection between these two systems exists at Kansas City and while no physical connection between the Phillips and Shell systems has been made at East St. Louis, such a move would appear logical.

New Outlet for East Texas Planned by Bell General Line

With the announced purpose of providing a new East Texas outlet, the Bell General Transit Corp. is being organized, with offices in Tulsa, and the following officers: Albert Finston, vice president and general manager, Bell Oil & Gas Co. is president; D. D. Irwin, Chicago, vice president; Marvin McMurrey, vice president of McMurrey interests, Tyler, vice president; A. H. Meadows, Dallas, secretary; Benedict I. Lubell, Tulsa, treasurer, and M. V. Keeley, Chicago, assistant secretary-treasurer.

The new corporation is to acquire the 45-mile 8⅝-inch line from McMurrey Pipe Line Co. extending from Overton to Tyler. It is proposed to also construct a similar line from the Tyler terminus to Bullard station on the main line of Pure Oil Co. from the Van field to Smiths Bluff, near Beaumont and Port Arthur refineries. The new firm will operate its line from Overton to Bullard as a common carrier, and it and Pure will publish joint tariffs for the movement of East Texas oils to the Gulf of Mexico.

At Smiths Bluff, Bell General Pipe Pine Co. has contracted for terminaling rights with Pure. Capacity of the line will be 30,000 bbls. a day.

Pipe Line Mileage of World Approximates 125,000 Miles

Pipe line mileage for the transportation of crude oil and gasoline totals approximately 125,000 miles. Of this total 117,000 miles are located in the United States. Pipe line mileage in the remaining principal oil-producing countries is as follows: U.S.S.R., 3,000 miles; Rumania, 2,522 miles; Iraq, 2,218 miles; Mexico, 726 miles; British India, 600 miles; Belgian Congo, 395 miles; Argentina, 338 miles, and Colombia, 350 miles.

Humble Surveying for Line to Higgs and Lewis Pools

FORT WORTH, Tex.—Humble Pipe Line Co. is surveying right of way for a new 4-inch line from its Hawley pipe line station to the Higgs and Lewis pools of Jones County, West Central Texas, a distance of about 9 miles.

Lake Bistineau Gas Field to Be Given Outlet by United

SHREVEPORT, La. — Gas production in the Lake Bistineau field of Bienville Parish, North Louisiana, will gain an outlet, according to a contract closed between United Gas Pipe Line Co. and DeSoto Oil & Gas Co., operator of two large gas wells in the field. A line will be run into the field to take the production from the two Glen Rose wells, and any additional wells on the DeSoto leases.

Oklahoma Pipe Line Co. and Carter Oil Group Insurance

Carter Oil Co. and Oklahoma Pipe Line Co. announce that effective January 1, 1938, the group life insurance plan, in operation since January 1, 1932, has been amended so that all regular employes are eligible to subscribe to group life insurance on date of employment. Employes not classified as "regular" will become eligible to subscribe as soon as credited with one year's service.

All employes in active service on January, whose jobs are classified as regular and who have heretofore been ineligible to subscribe to group life insurance solely because of the one-year clause, become eligible to subscribe without medical examination on that date or within 31 days thereafter. In future, new employes classified as regular will be eligible to subscribe upon their employment date or within 31 days thereafter, without examination.

This amendment will provide group insurance to approximately 300 employes in the companies who have heretofore been without this protection because of the one-year clause.

Panhandle Pipe Line Expansion Anticipates Detroit Peak

The anticipated peak load requirements for natural gas in Detroit as of 1941 will be reached this year, according to advice from Detroit Gas Co. to J. D. Creveling of New York, president of Panhandle Eastern Pipe Line Co. In preparation for meeting the peak load which was not expected to be reached until 1941, Mr. Creveling said in New York last week that Panhandle Eastern's transmission capacity was increased 40 per cent by the $12,000,000 line looping and station addition program completed in 1937, which included the laying of 350 miles of line and addition of compressor stations totaling 29,400 horse power.

S. G. Coultis Appointed Head Of Royalite Pipe Line

CALGARY, Alberta.—S. G. Coultis, field superintendent for Royalite Oil Co. in Turner Valley, has been appointed head of the pipe line division of the Royalite company. The department will have charge of the operation of the Royalite pipe line from the Turner Valley field to Calgary. Mr. Coultis has been identified with Turner Valley activities since 1917.

Natural Gas

Philadelphia Lease Ratified Despite Mayor Wilson's Veto

PHILADELPHIA, Pa.—After a week of moves and counter-moves by Philadelphia city council and Mayor S. Davis Wilson, United Gas Improvement Co.'s subsidiary was ratified as the lessee of the municipally owned distributing system. The mayor's veto of the lease approved by the city council two weeks ago was overridden by 16 to 6. The new lease specifies a rate of 85 cents per 1,000 feet, a reduction of 5 cents from the old lease which expired in December.

In granting the United lease, the Philadelphia council rejected an offer from an individual to supply natural gas from southern New York and northern Pennsylvania fields at a rate of 50 cents per 1,000 feet. Questions were raised of the adequacy of the supply.

Gas Appliance Manufacturers' Sales Nearly Half Billion

A marked increase during 1937 in the sale of gas appliances and equipment was reported by C. W. Berghorn, managing director and executive secretary of the Association of Gas Appliance and Equipment Manufacturers. The total number of items sold, according to Mr. Berghorn, was approximately 4,000,000 at an estimated value of half a billion dollars.

The association, which began with 80 charter members in 1935, now numbers 400 manufacturers from all parts of the United States, organized into 12 main divisions. During 1937 the members of the association's board and the executives of the divisions held nearly 100 meetings to discuss common problems in key cities. Among the many questions that came up for exhaustive discussion in the past year were the laboratory requirements, research work which is being done by the gas appliance manufacturers, and fair trade practices within and without the industry.

The president of the Association of Gas Appliance and Equipment Manufacturers is Merrill N. Davis, executive vice president of the Dresser Manufacturing Co., of Bradford, Pa.

Dry Ice Plant in New Mexico To Use Ute Valley Gas

FORT WORTH, Tex.—Carbonic Chemicals Corp. of California has announced plans for construction of a 90-ton dry ice plant, capable of being enlarged to 400 ton daily capacity, in the Bueyeros area of Harding County, New Mexico.

The plant will operate from the carbon dioxide gas deposits which have been discovered in the Ute Valley. A block of 80,000 acres of reserve gas lands has been secured. In addition, gas from Natural Carbon Dioxide Gas Co., Pampa, Tex., has been placed under contract. In addition to the use of this gas for dry ice, the new concern is making investigations as to its use in the production of other by-products used in the manufacture of methanol, formaldehyde, oxalic acid, and other staple carbonates.

Natural Gasoline

California Gasoline Production Increased During November

Natural gasoline production in California increased 1,000 bbls. daily during November, 1937, according to the Bureau of Mines report for that month. Total daily production amounted to 42,000 bbls., while refinery utilization decreased 2,000 bbls. to 39,000 bbls. daily. Stocks decreased 1,199 bbls. daily and at the end of the month amounted to 2,014,000 bbls.

Daily average production of liquefied petroleum gases increased from 1,896 to 2,002 bbls., of which 508 bbls. were produced at refineries in November. Daily average sales increased from 1,897 bbls. to 2,080 bbls. Still gas production during November amounted to 2,036,588,000 cubic feet, equivalent on a B.t.u. basis to 480,179 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS NOVEMBER, 1937

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	55,475	116,109
Kettleman Hills	9,999,467	14,754,637
Midway-Sunset	1,121,589	2,083,322
Mountain View	706,657	769,738
Miscellaneous	4,683,574	2,765,696
Coastal district:		
Elwood	711,225	1,042,348
Rincon	149,732	239,750
Santa Maria	171,755	447,627
Ventura Avenue	3,823,716	4,894,606
Miscellaneous	585,426	523,923
Los Angeles Basin:		
Brea-Olinda Coyote	412,924	1,329,368
Dominguez	1,905,434	2,803,654
Huntington Beach	1,419,107	3,592,284
Inglewood	300,130	494,283
Long Beach	1,494,432	6,563,835
Richfield	221,179	525,824
Rosecrans	375,402	594,759
Santa Fe Springs	2,139,367	5,125,098
Seal Beach	466,942	733,030
Torrance	100,374	228,426
Miscellaneous	1,364,980	3,106,986
Total (all fields)	32,208,887	52,735,303

Distribution	(Gallons)	(Gallons)
Stocks beginning of month	2,388,185	
Production during month	52,735,303	
Delivered to refineries		51,672,690
Delivered to jobbers, brokers and blenders		1,173,872
Blended at plants for production of motor fuel		5,516
Losses		56,577
Stocks end of month		2,214,833
Total	55,123,488	55,123,488
Liquefied petroleum gas production	1,881,955 =	44,808 bbls.
Motor fuel produced	8,545 =	203 bbls.

C.N.G.A. Opens 1938 Program With Los Angeles Meeting

LOS ANGELES, Calif.—Members of the California Natural Gasoline Association will begin their 1938 program when they meet January 6 in Los Angeles. Following the dinner meeting the group will hear two featured speakers, Dr. C. H. Clemenshaw and G. M. Liljenstein. Doctor Clemenshaw, professor of astronomy at the University of Southern California and assistant director of Griffith Planetarium, will speak on the general subject of "Astronomy." Mr. Liljenstein, a test engineer in the natural gasoline division of Standard Oil Co. of California, will take as his subject, "Simplified Absorption Control for Natural Gasoline Plants." Walter C. Dayhuff, Standard Oil Co. of California, will act as chairman.

Following the presentation of Mr. Liljenstein's paper a prepared discussion relative to and supplementing the data contained therein will be presented by F. E. Bradley, Chanslor-Canfield-Midway Oil Co.; Kellar Grigsby, Norwalk Co.; E. J. Squire, Shell Oil Co.; H. P. Saueressig, Texas Co.; H. A. Sting, General Petroleum Corp.; and W. E. Williamson, O. C. Field Gasoline Corp.

Shell Completes Gathering Line Extension at Pampa

FORT WORTH, Tex.—Shell Petroleum Corp. has completed and placed in operation the extension to the gas system leading to its gasoline plant 5 miles south of Pampa, Gray County, Texas. The extension reaches about 3 miles to the northwest to Shell's Hughey lease, the main line being 10-inch and the laterals to various leases, from 4-inch to 8-inch. While the plant's gas-handling capacity has not been increased, its daily output will be higher due to the new rich gas handled.

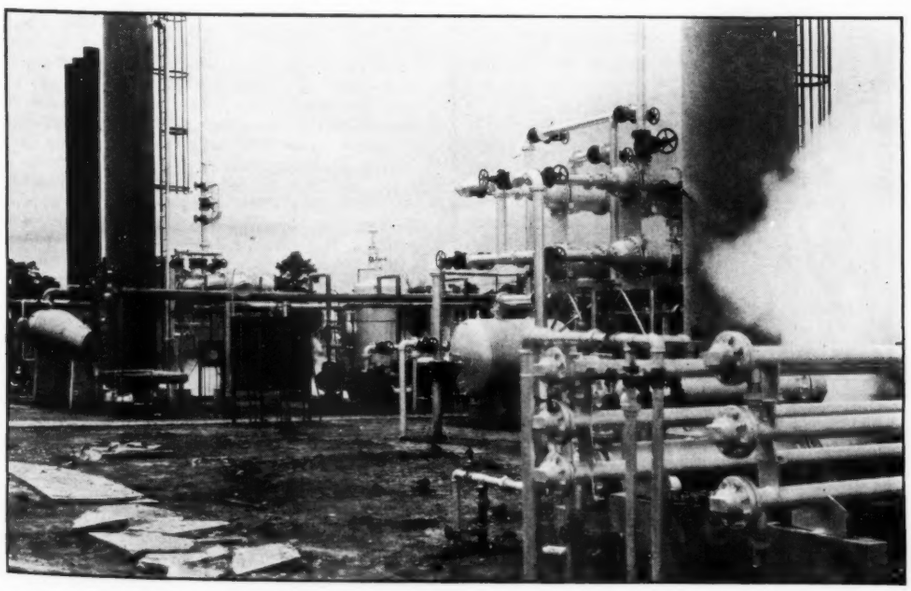
Refinery Expansion

Socony-Vacuum Sells Plant To Asiatic Petroleum

NEW YORK, Jan. 3.—Following a program of providing adequate storage facilities near the centers of consumption, Asiatic Petroleum Corp., (Shell) last week completed negotiations for the old Vacuum Oil Co. plant on the west shore of the Kill Van Kull in the Constable Hook section of Bayonne, N. J., where additional storage tanks are now being erected. The land purchase was made from Socony-Vacuum Oil Co., at a price of $212,500, according to revenue stamps affixed to the deed. Part of the new storage capacity being provided by Asiatic will be used in accumulation of fuel oil thus insuring adequate working stocks for a season of exceptionally heavy consumption and as a protection against interruption of supplies.

Bay to Rebuild McPherson Plant Damaged by Fire

McPHERSON, Kans.—Work on rebuilding Bay Petroleum Corp's. refinery here, recently damaged by fire, is scheduled to begin at once. Cause of the fire, which originated in a cracking tower and spread to another nearby tower, has not been determined. The company recently announced plans for increasing the capacity of the plant from 2,500 bbls. to 4,000 bbls. daily. The plant was operated by Dickey Refining Co. until June, 1937, when the Bay company purchased the plant and other Dickey holdings.



Butane recovery system in Lisbon Gasoline Co.'s natural gasoline plant in the southern part of the East Texas field. The butane extraction equipment was recently completed and the boiler capacity increased as part of a plant modernization program. The plant's output is run to spheroid tankage and delivered to Humble Pipe Line Co. for movement through its line to the company's Baytown, Tex., terminal.

North Star Plans Enlargement Of St. Boniface Refinery

WINNIPEG, Manitoba.—Some extensions will likely be made this year to the refining plant of North Star Oil, Ltd., at St. Boniface to meet the increased demand for petroleum products resulting from the taking over of the Prairie Cities Oil Co. The Prairie Cities company, incorporated in 1929 to succeed the Prairie City Oil Co., distributed petroleum products to the retail trade in Manitoba and Saskatchewan, with some 250 distributing points. North Star Oil is planning to operate on Turner Valley crude.

British American to Enlarge Its Montreal Refinery

MONTREAL, Quebec—British American Oil Co., Ltd. will construct an addition to its refinery here at an estimated cost of $500,000, work to be started early in 1938. Present skimming capacity of the plant is 15,000 bbls. daily and cracking capacity 6,000 bbls. daily.

Gainesville Company Changes Name Effective January 1

GAINESVILLE, Tex.—Effective January 1, 1938, the name of Gainesville Refining Corp. has been changed to Denver Producing & Refining Co. The management, including officers and employes, remains unchanged, the change in name being made for the purpose of bringing Gainesville Refining Corp., along with other subsidiary and associated companies, under one name.

The company operates a 2,500-bbl. refinery at Gainesville which was completed in December, 1936. The plant was originally constructed with a daily capacity of 2,000 bbls., being increased to its present skimming capacity during the latter part of 1937. G. A. Mattson is superintendent and C. W. Anderson sales manager.

Gold Standard Operating Wainwright Refinery

WAINWRIGHT, Alberta.—Gold Standard Oils, Ltd., organized in 1930 by Toronto interests, is operating a small refinery taken over from the Wainwell Oil Co.

INTERNATIONAL NEWS

American Exporters Increasing Their Shipments to Austria

The extent to which United States' oil producers and refiners increased their export business last year because of foreign exchange difficulties is indicated by trends in Austria. While the country is a comparatively small consumer of petroleum, the nature of its imports and the sources from which they were drawn underwent drastic change during the first three-quarters of last year.

From its trade office in Vienna, the U. S. Department of Commerce has received an analysis of petroleum imports during the first nine months of 1937 showing the United States to have made rather impressive strides as a supplier. From this country, Austria drew 5 per cent of its crude oil requirements, compared to none for the same period in 1936. In the matter of gasoline, United States supplied 15.5 per cent of the country's imports for the period against one-half of 1 per cent for the same time in 1936. Seven per cent of Austria's kerosene imports were drawn from the United States in the first three-quarters of 1937 whereas none was shipped there from this country in the preceding year. Lubricating oil remained virtually unchanged since United States supplied 76 per cent of the Austrian requirements in the first three quarters of 1936, but the participation did rise to 79 per cent for the same period in 1937.

Foreign exchange restrictions imposed against Rumanian producers materially lowered its petroleum traffic with Austria in the period under review. Rumania's share in Austrian supplies dropped, for crude oil from 100 per cent in the first nine months of 1936 to 41 per cent in the first nine months of 1937, for gasoline from 96 to 44 per cent and for kerosene from 76 to 29 per cent.

Unique Jetty Recently Added To Kingsnorth Refinery

Berry, Wiggins & Co., Ltd., independent refiners in England, have completed the latest addition to their refinery at Kingsnorth on the River Medway, a new deep water jetty. This jetty is unique in being probably the longest jetty in the British Isles, its total length being over 8,000 feet. It is constructed in the form of a timber gantry for the first 5,800 feet, the remaining 2,500 feet to the jetty head being constructed of steel, this portion terminating in the pier head and dolphins, the depth of water giving safe berth to the largest tankers at all states of the tide. An illustration showing the steel part of the jetty and the join to the timber gantry was published on page 57 of the December 30 issue of The Oil and Gas Journal.

The jetty accommodates a large number of pipe lines feeding the refinery and public storage installations which the company is rapidly developing. A special tubular heating plant has been installed to facilitate the rapid transfer of the heavier and more viscous oils, so that quick "turn round" of tankers is assured even when carrying oils of this type.

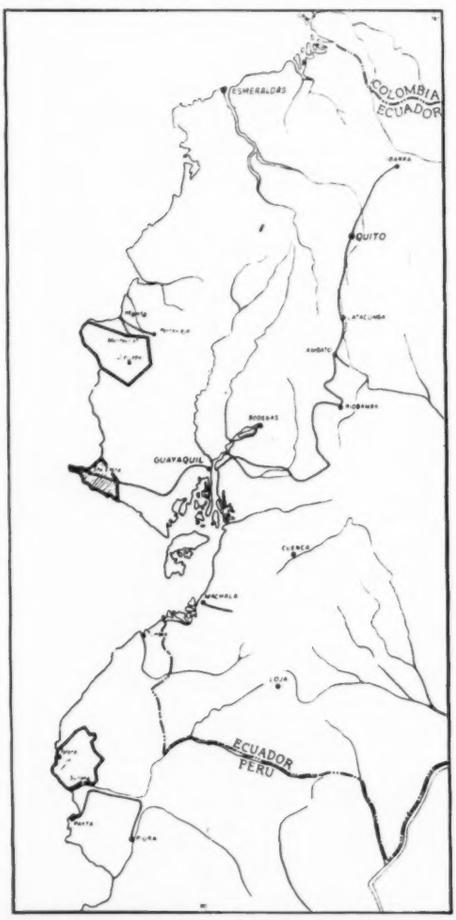
The total area of the Kingsnorth works is over 300 acres, and this area is being rapidly taken up with tanks and refining plant.

The company has also large works and refinery at Weaste, Manchester, and at Ellesmere Port, Cheshire, and is thus able to offer storage facilities within easy reach of the various intensive oil markets of England.

New Concession in Ecuador for International Petroleum Co.

Negotiations between the government of Ecuador and International Petroleum Co., Ltd., were recently completed and as a result the company has acquired a concession for exploration and, should exploration warrant, development of a large tract of land on the Ecuadorian coast. The territory involved, the Imperial Oil Review announces, is approximately 500,000 acres. It is northwest of Guyaquil and south of the Port of Manta as shown on the accompanying map. It extends inland from Cape San Lorenzo to beyond the towns of Monte Cristi and Jipi Japa. These are the centers of the panama hat industry in Ecuador and are credited with being the places at which the best grade of panama hat is made.

The only oil fields so far discovered in Ecuador are on the Santa Elena peninsula, a desert area west of Guayaquil. The production there is largely controlled by an English company and approximates 6,000 bbls. daily. In the early twenties International Petroleum Co. drilled several wells on and near the Santa Elena peninsula and also drilled two wells north of the concession recently acquired. One of the wells drilled in the Santa Elena peninsula produces a small amount of oil but the company's production in this area is negligible and for some years past the company has not carried on any drilling activities.



Map of western Ecuador and northwestern Peru showing the recently acquired concession of International Petroleum Co. south of Manta, the Santa Elena district where the present producing oil fields of Ecuador are located, and the location of the La Brea-Parinas estate of the International in northern Peru

The prospects of the new concession are not well known, although preliminary geological work has been carried on in the area. It is the intention of the company to do further geological work there and also some geophysical work, including a gravity-meter and magnetometer survey. By these means it is hoped to secure additional information which will determine whether it would be advisable to proceed with the testing of any likely-looking structures which may be revealed.

Mexican Labor Board Suspends Order Pending Court Ruling

The Mexican labor board January 1 suspended its order increasing the wages of oil company workers pending a ruling by the Supreme Court on the appeal of the 16 American and British companies affected.

Gustavo Corona, chairman of the labor board, said the companies must post a bond of "several million pesos" and "guarantee workers' rights."

The companies had previously issued a statement to their workers saying they would not pay the wage increase of about 33⅓ per cent ordered by the labor board. The joint statement to workers declares:

"The directors of your company regret to advise you that despite their efforts to reach a fair and equitable settlement of the economic conflict between the oil industry and the Syndicate of Petroleum Workers of the Mexican Republic, the Federal Labor Board in its decision December 18 imposed conditions of such a nature that it is absolutely impossible to comply with the award.

"You are aware, of course, that the oil industry made you an offer which, had it been accepted, would greatly have improved your economic status not only over that which you are at present enjoying but far in excess of that enjoyed by workmen of any other industry in the country.

"Unfortunately, it is impossible to arrive at any agreement and your directors therefore reiterate their regret that the award imposed terms impossible of fulfillment."

W. S. Farish, president of Standard Oil Co. (New Jersey), parent of the Huasteca Petroleum Co., Mexican corporation, said in New York last week that in addition to the wage increase granted, the labor board's decision imposed "obligations for the support of labor, the costs of which in some cases are impossible to calculate.

"The oil companies," Mr. Farish said, "have endeavored to meet the unreasonable conditions set by the Mexican government and have attempted to maintain peace and fair play both with labor, for which it has and always has had sympathy, and with the government. However, the curve of expenses and costs has progressively risen, whereas, the selling prices fixed by the government have remained constant. The upper and nether millstones have met.

"The oil companies have always availed themselves of any recourses allowed by the Mexican law. A final appeal through the filing of a petition to the Supreme Court for an 'amparo' with a stay of execution of the board's award was entered by the oil companies. The issue is therefore, now officially before the supreme court of Mexico."

The stalemate precipitated cessation of refinery operations at most plants in the Tampico section early this week. Oil companies have refused to pay the strike wages, have declined to post bond and have shut down the refineries pending settlement of the demand.

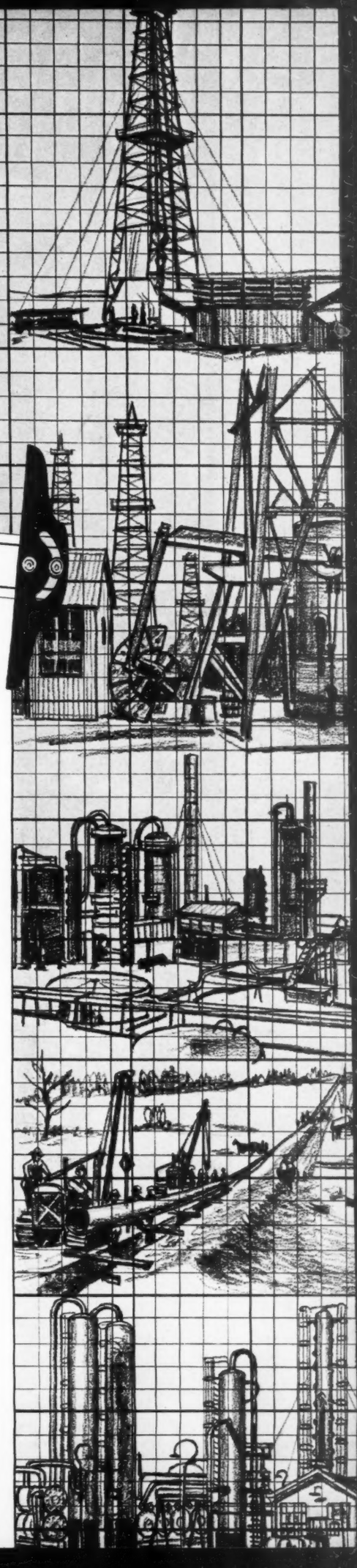
Production in Iran Less in October But Is Up for Year

Although dropping behind July, August and September, Iranian crude oil production for October held well above figures for the first half of the year and totaled 6,953,550 bbls. for the month. In September the output was 7,074,350 bbls., but a year ago in October the production was only 5,073,600 bbls.

For the 10 months ending with October, the official production totaled 64,159,900 bbls., compared to 51,558,950 bbls. for the same period in 1936.

ENGINEERING AND OPERATING SECTION

LATEST DEVELOPMENTS IN DRILLING PRODUCING, REFINING, PIPE LINE OPERATION AND NATURAL GASOLINE MANUFACTURE



PRESENTING

ARTIFICIAL LIFTING IN RODESSA FIELD PRESENTS VARIOUS PROBLEMS
By George Weber ..... *Page 30*

Although the Rodessa field is yet primarily a flowing field, some 10 per cent of the wells are now producing under artificial lift and the necessity for this practice is steadily increasing. Various reasons for wells going to pump are described and a discussion of several reconditioning programs under way is given by the author.

UNUSUAL GAS-HANDLING METHODS FEATURE NEW GASOLINE PLANT
By M. E. Garrison ..... *Page 35*

General Petroleum Corp. of California has placed in operation in the Wilmington field a new natural gasoline plant in which gas collection, processing and distribution differ from practices employed in most plants. A direct-fired heater is employed and also a flash tank at the end of the exchangers on the rich oil stream.

TESTING MATERIALS USED FOR METER VALVE COVERS AND SEATS
By F. H. Winslow ..... *Page 39*

In order to determine the effect which various substances on the covers and seats would have on the accuracy of meters a series of tests were made, the results of which are described here.

CALIFORNIA RIG SPUDS IN WITH 11,300-FOOT SAND AS OBJECTIVE
By T. P. Sanders ..... *Page 43*

Several wells are now being drilled in California which, for the first time, have as an objective a known reservoir lying at a depth greater than 11,300 feet. Drilling methods and equipment for these wells are of unusual interest due to the deep well-depth planned.

SUBSURFACE DISPOSAL OF OIL FIELD BRINES IN SOUTH LOUISIANA
By Donald E. Fuellhart ..... *Page 46*

Because of pollution involved, disposal of brines produced with oil in South Louisiana is a serious problem. Several disposal projects are described and detailed information given on the different input wells.

REFINING CRACKED GASOLINE FROM OIL PRODUCED OUTSIDE OF U. S.
By J. C. Morrell, C. G. Dryer and Gustav Egloff ..... *Page 54*

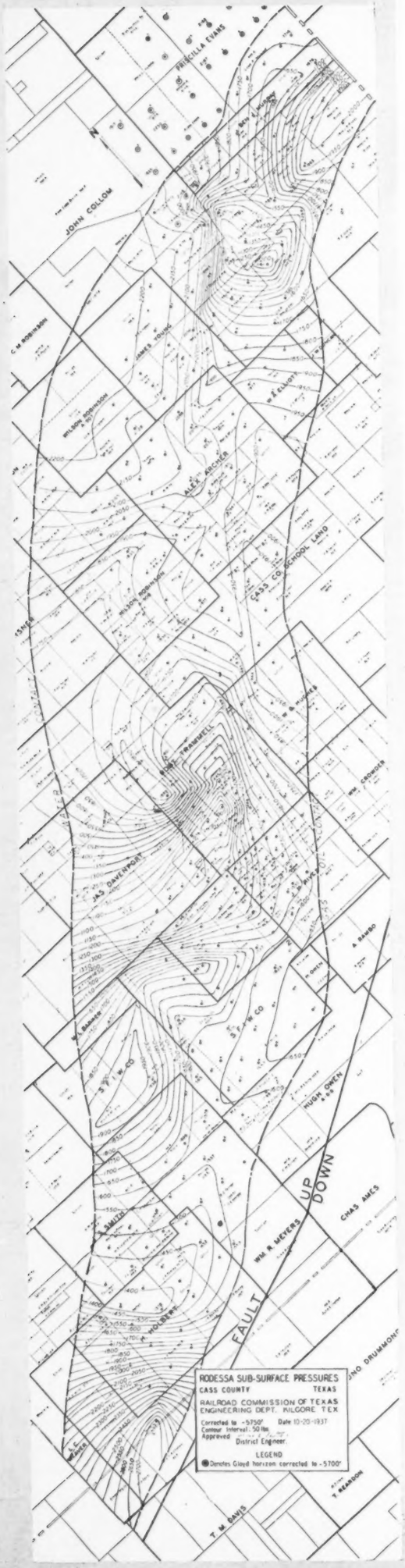
In the second and concluding article outlining the refining of cracked gasoline from foreign crudes data on oil produced in Iraq, Argentina, Canada, Bahrein Island, Dutch Indies, Greece and Japan are given.

OPERATING IDEAS ..... *Page 41*

PROGRESS IN METALS—*By W. L. Nelson* ..... *Page 44*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph. D.* ..... *Page 56*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 57*



Artificial Lifting Presents Various

By GEORGE WEBER

The necessity for artificial fluid lifting is steadily increasing as the tri-state Rodessa field, with its producing wells rapidly approaching the 1,000 mark, continues its daily withdrawal equalling about 250,000 bbls. of void space (water, oil and gas). At the present there are about 91 wells operating under some form of artificial lift, of which about one-half are pumping and the others on gas lift of one type or another. In the Arkansas portion of the field, there are two pumping wells and one on gas lift; in Caddo Parish, Louisiana, there are 28 pumpers and 30 on gas lift, and Cass and Marion counties, Texas, have six wells pumping and 24 equipped with gas lift.

Although over 10 per cent of the wells in Rodessa are now producing under artificial lift, it is important to note that those wells represent in most instances, special cases. They are the tests drilled in marginal production areas, or the improperly completed wells, and do not represent the average wells of the field. The field is yet primarily a flowing field, and the general trend toward pumping and gas lifting is not expected for some time to come. Various irregularities in Rodessa production make future predictions of the pumping trend generally unreliable so early in the field's development.

Reasons for Going to Pumps

A variable number of causes combine to require artificial lifting in certain Rodessa wells, while their offsets flow their allowables daily without difficulty. Flank encroachment of water in this faulted anticlinal structure is, of course, an important influence in hastening the time when pumping or gas lifting is necessary. On the last periodical check of wells making salt water or basic sediment, it was revealed that one well in Arkansas, 137 in Louisiana and 51 in Texas, or a total of 189 wells for the entire field, were making water in percentages ranging from 1 to 95.

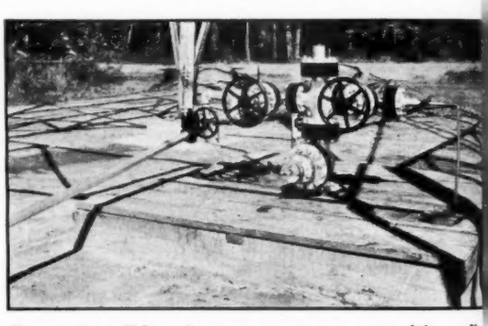
Generally speaking, the water wells, particularly the large volume ones, are on the southern flank of the field, and a rather definite water-oil contact line may be established along the 35-mile field. Those inside wells making small percentages of water are either improperly completed after having taken too much penetration in the lower oil zone, or are in closely spaced areas which have been subjected to excessive withdrawals with the accompanying early appearance of water.

An effort among certain operators is now being made to put the allocation of production on the Louisiana side of the field upon a volumetric basis, considering the void space of oil, gas and water. Such a reallocation would immediately influence operators to check water encroachment all that is possible. If an order of this kind is eventually issued, Texas is expected to immediately follow suit, making the ruling applicable over most of the field.

Fig. 1—Contour pressure map of minus 5,750-foot datum plane in the Cass County section of the Rodessa field. (Acme Map Co., Tyler, Tex.)

It is reported, however, that the Department of Conservation of Louisiana is considering the cutting of gas wells to a flat allowable, at the same time allowing increased gas-oil ratios in special cases for oil wells. This ruling would not greatly alter the average bottom-hole pressure trend in Rodessa as a whole, since curtailed gas production would be partially offset by increased gas withdrawal with oil production.

Variable porous conditions in the Young limestone, the main oil-producing zone in Rodessa, is probably the principal contributing factor in causing the increasing number of wells that cannot make their allowables, and are going on the pump or gas lift. As is characteristic of most limestone reservoirs, the percentage of pore space varies from well to well without any general conformation to structural position.



Typical well-head arrangement on gas-lift well

Figure 1 is a contour map of pressures at the minus 5,750-foot datum plane for the Cass County sector of the field. This map illustrates the wide pressure variation, which in turn is occasioned mainly by the variable limestone porosity. In the Cass County section of the field withdrawals have been rather uniform because of allocation on a 5 per cent acreage basis for over a year. Hence, the low pressure areas as shown must be accorded to a decrease in effective porosity rather than any reduction in original pressure due to excessive voidage of pore space. The most closely drilled area will be seen in the J. F. Rives Survey, where pressures have held up remarkably well, due again to a favorable porous condition. Acid has been effective throughout the field in increasing effective porosity and delaying the initial date of artificial lifting.

Submarginal Wells

Of course, lower fluid levels accompany reduced pressures in the tight rock areas, and result in an increasing number of wells incapable of making their daily allowables. In a recent check, 15 of the 278 wells in the Texas portion of the field are incapable of making their allowables, as are 35 of the

in Rodessa Field Problems

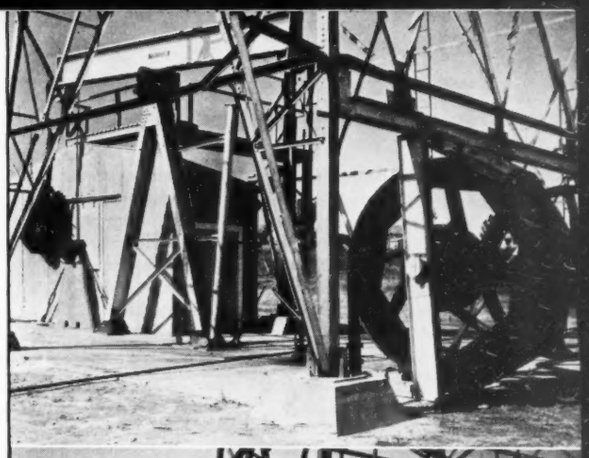


Fig. 3 — Standard pumping rigs of this type are being installed on a number of wells in Rodessa

424 Louisiana producers. Up to the present time, Arkansas wells have not been prorated.

This inability to make daily granted production has prompted the growing use of gas lift. Most operators are employing this lifting method as a temporary expedient, while a few are equipping their leases with anticipation of using gas lift to exhaustion.

It is generally agreed, however, that the ultimate conversion to artificial lift in the field will be to pumping. The presence of an effective water drive is generally questioned, and when gas in oil solution decreases to a point where it will not force the oil to the wells, some form of such suction will need to be employed.

Reconditioning Program

Improper well completion has forced many wells in this field to the marginal or submarginal stage. Conservation regulations in all three states require that no well shall be exposed to more than one producing oil or gas formation, but many wells remain yet to be reconditioned to remedy this condition. In such wells, high gas-oil ratios are common, for the higher pressure gas sands above the Young limestone tend to keep fluid levels down. A well-reconditioning program has been carried out at Rodessa for the past year and one-half, and these improperly completed wells are slowly being corrected, and in many instances allowable productions are raised through the reduction in gas-oil ratio, with lifting dates delayed far into the future.

Figure 2 is an observed pressure curve, data for which was taken from surveys made by the Texas and Louisiana regulatory bodies. Individual curves are shown for Texas and Louisiana. Due to the lack of periodic surveys in the Arkansas sector of Rodessa, no average bottom-hole pressure data covering the history of that area is available.

Any extrapolation of these time-pressure curves indicates a long flowing life down to the mean level of from 750 to 900 pounds per square inch, when wells will be on artificial lift. Interpretation of the curves with a view to predicting future trends must recognize several irregular factors. First, the data represents average bottom-hole pressures of all oil wells in the respective sections. Since proven acreage drilling, and edge and extension development are still in progress, the constant addition of new producers at generally higher bottom-hole pressures than the average, tends to support the curve giving a flatter gradient than would be represented by data from certain key wells over the same period.

Also, the unpredictable effect of a water drive in future pressure conditions is a factor. It is

Fig. 4 — This pumping rig utilizes compressed air in the pneumatic cylinder to counterbalance the load

believed that withdrawals in the areas producing water at present exceed the normal water drive, and its action if any is yet undetermined. Variation in the porosity of the producing lime as explained, introduces further irregularities, and the observed pressure cannot be relied upon to the extent of similar pictures in fields with sand production and effective water or gas drives. From present indications, however, it appears that any well going on the beam or to gas

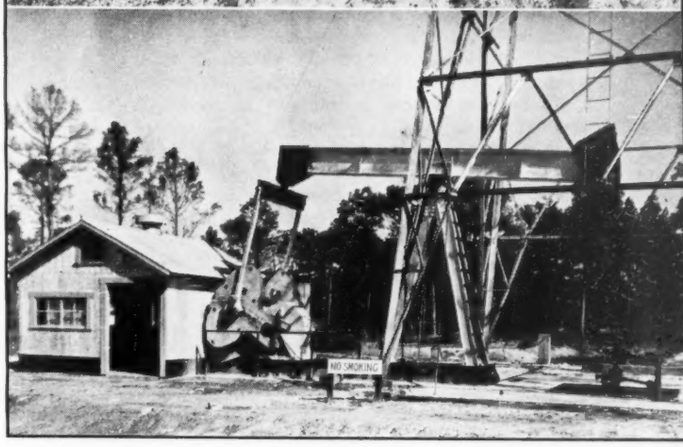


Fig. 5—The rotary counterbalance type of pump is also much in evidence in the Rodessa field

lift over the next two or three years, will do so for causes other than an average low-pressure condition in the field as a whole.

Oklahoma City a Precedent

Experience gained in the lifting of fluid from 6,000-foot wells in the Oklahoma City field is being drawn upon in the equipping and handling of Rodessa wells. Unlike Oklahoma City producers, however, the potential of wells in Rodessa does not affect their daily allowable, and for this reason some adjustments are made in the selection of lifting equipment between the two similar depth areas.

The manner of allocation to individual wells at Rodessa does materially affect the lifting problem in that there is a 2,000-foot gas to one barrel oil "gas limit" factor in the allocation formula, which means that all high gas-oil ratio wells are penalized in their daily grant for ratios above 2,000 to 1. Therefore, the lifting method which will result in lowest ratios of gas to oil will often result in increased allowables, and quickly pay out their installation costs. Some wells have gone to pumping solely for the purpose of checking gas-oil ratios and increasing allowables.

At the present time the Texas Railroad Commission deducts from the gas-oil ratio of gas lift wells, that volume of input gas which is produced together with formation gas. This ruling places the ratio strictly on a basis of formation gas to oil produced, and is favorable to gas lift methods, which are generally attractive due to the prevalence of gas in the field. In the Louisiana sector, the deductible gas input ruling is not in effect, but concerted effort on the part of producers in that area may bring it shortly.

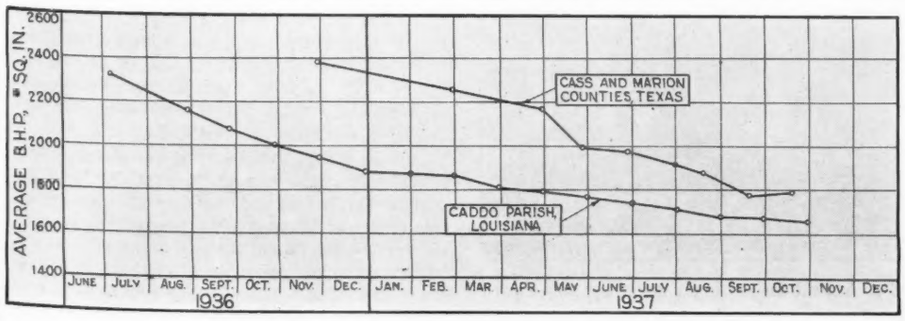


Fig. 2—Bottom-hole pressure decline curves of Rodessa field

Flowing Conditions

Previous flowing conditions always have an effect upon the selection of lifting equipment in later life. At Rodessa, flow through unrestricted tubing or casing has been rare, except in the recently completed wells in the Arkansas portion of the field. The Louisiana and Texas regulations have called for strict enforcement of the rule that all wells

must be equipped with a flowing string of tubing not to exceed 2½ inches in size and all potential tests, whether for one hour or 24 hours, shall be through ¼-inch by 6-inch positive chokes.

In some wells bottom-hole chokes have been very successful in reducing excessive ratios, with a resultant increase in daily allowable. Tapered tubing installations have also extended flowing life and reduced ratios in certain wells, but not with uniform success.

Beam Pumping

Due to the surplus of gas in this field, gas-driven engines provide the universal motive power to beam pumping wells. At present there are three standard-front countershaft and long-belt drive pumping rigs in the field. All other pumping fronts are of the heavy-duty portable type, most of which are gear-box driven through V-belts from 45 hp. horizontal gas engines. Some gas-operated multiple cylinder motors are installed and have been operated with success. Engine houses are enclosed in all cases. The accompanying Figures 3, 4, and 5 show typical pumping installations in Rodessa.

The insert liner of "rod-type" pump is almost universally used in these deep pumpers, as the entire bottom-hole assembly can be removed by pulling the rods. This type of pump is not dependent on stationary anchorage to tubing. Reboring processes, and the practice of resetting the liner so as to distribute the wearing area of the stroke throughout the greatest portion of the entire liner, add to the economy of such deep well pumps.

Rod jobs constitute the greatest source of trouble in pumping, but due to the relatively small number of wells yet on the pump, and the different lifting conditions encountered in the individual installations, no fixed programs on down time or cost have been set by the larger producers.

The long slow stroke has been found desirable for Rodessa pumping for several reasons, most of which have long been established in deep well pumping. Such a cycle results in less power loss per stroke, an easier and more efficient adjustment of the balls and seats on each stroke, and less jerk and fatigue on the rod string. Typical installations operate at 18, 6-foot strokes per minute.

Practically all Rodessa wells were surveyed for deviation from vertical at 500-foot intervals while drilling, and there are only a very few holes which would be classified as "crooked" in the field. State regulations require that no hole shall deviate more than 5 degrees from vertical.

Gas Lift

Of the 91 wells now on artificial lift in Rodessa, 55 employ some type of gas lift. Some operate on straight gas lift and kick-off valves, but a majority are given over to intermitting gas lift. The former type of operations is carried out at varying pressures, depending on the individual conditions in the wells. Pressures average generally about 450 pounds.

The intermitting method of gas lift is finding increased popularity because of several desirable characteristics. Larger recovery is obtained in the first place, by use of packers, preventing the direct contact of high pressure gas on the producing formation. Smaller volumes of input gas are needed, and at generally lower pressures. The method allows the undisturbed natural flow of the well, utilizing the input gas in amounts and at pressures sufficient to lift the collected oil to the surface.

Of the intermitting type of gas lift installations, various kinds are in use, including Bryan, G.P.I. and Philpneumatic. The latter is lifting production on nine wells in the field. Equipped with a regular hook wall-packer, the Philpneumatic pump is operating in the field at ratios of input gas to oil produced as low as 500 to 1 and in most cases under 700 or 800 cubic feet to 1 bbl.

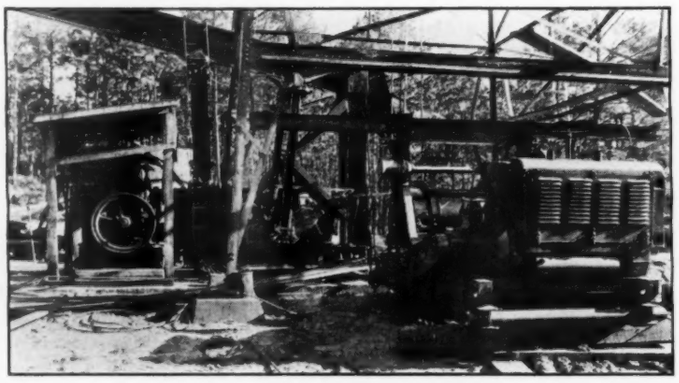
Input gas is admitted through the tubing string, and when a sufficient fluid level has accumulated in the chamber, the oil is forced to the surface through the annular space between casing and tubing. Depending on the fluid levels in individual wells, the device is suspended anywhere from 500-foot off bottom to total depth of the well. If water drive in Rodessa operates in the future to sustain sufficient fluid levels in the bottom of Philpneumatic installed wells, they can efficiently be produced by that method to exhaustion.

Marginal Area Wells

A considerable number of the straight gas-lift, and intermitting gas-lift installations have been adopted, however, merely as an intermediate means of lifting, and will go over to beam pumping eventually. Others have been installed to increase production in flowing wells which will not make their allowables.

Some operators are equipping wells in the marginal areas with pumping units, to be placed in operation when the bottom-hole pressures have dropped to a point where artificial lift is necessary. The general lifting policies of operators in Rodessa when that field approaches its flowing life, however, cannot be anticipated this early in the development. Future proration measures, and the trends in water production, gas-oil ratios and bottom-hole pressures will influence the operations as the development of the field progresses.

This eight-wheel "trailer" pulling unit is used by some companies at Rodessa that do their own pulling. It is moved from one location to another by car or truck



Typical pulling equipment mounted on skids as used by some pulling contractors at Rodessa. The heavy-duty gasoline-powered pulling units are moved from location to location by truck

"The Chemistry of Petroleum Derivatives," Volume II

Little by little, as knowledge of the chemistry of various derivatives of petroleum expands, a comprehensive record of the work, other than that scattered information constituting the original papers, appears to be needed. This, Carleton Ellis, the author states, is the purpose of the present volume, "The Chemistry of Petroleum Derivatives" Volume II, which serves to continue the subject matter of an earlier edition published in 1934. Due to the rapid development taking place in the field of petroleum chemistry the value of a book containing this material, with references to the original work, may be easily understood.

The volume contains over 1,460 pages divided into 54 chapters, and in addition there is a name and subject index. Chapters of especial interest are those relating to sulfur and sulfonation, one dealing with utilization of by-products of refining and another on polymerization. Chapters on detonation and nitration are also included, and in view of its growing importance to the petroleum industry a section treating the subject of thermodynamics has been included. A chapter has been added on the chemistry of asphalt, and also one on the production of hydrocarbons by treatment of carbon monoxide with hydrogen. The search for new anesthetics has led many investigators to carry the hunt into the hydrocarbon field, and therefore a chapter on "Petroleum Hydrocarbons in Anesthetics" is included.

Some other chapters included are: "Chemical Nature of Petroleum and Natural Gas," "Thermal Decomposition of Hydrocarbons," "Cracking Processes and Some of Their Products," "Production of Unsaturated Hydrocarbons," "The Carbon Black Industry," "Properties and Uses of Higher Alcohols," "Production of Acids From Petroleum," "Analysis of Natural Gas and Cracking Gas," and "Analysis of Petroleum Distillates."

A copy of "The Chemistry of Petroleum Derivatives" may be purchased through the Book Department of The Oil and Gas Journal at the regular retail price of $20.00, express prepaid (postage extra outside the United States), and it will be forwarded promptly upon receipt of check or money order for that sum. When no payment accompanies the order the book will be sent express c. o. d. to avoid delay.

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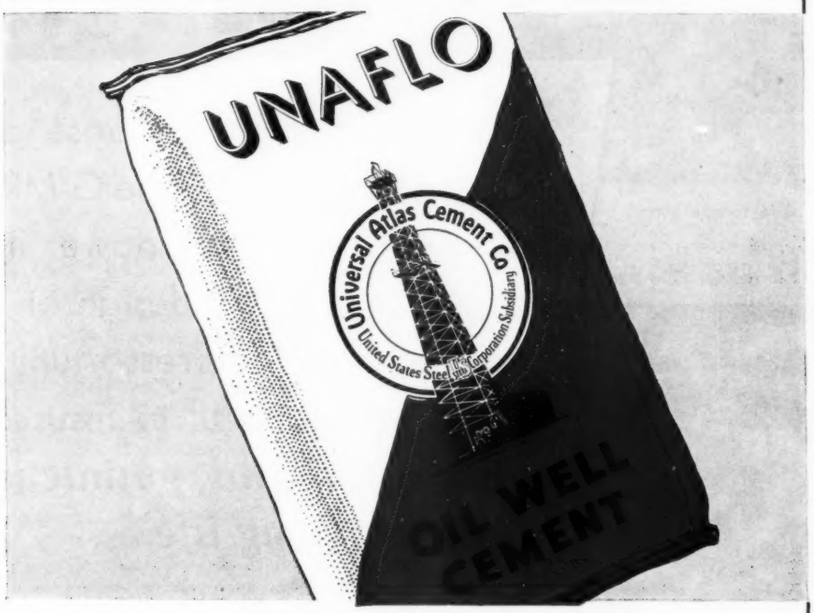

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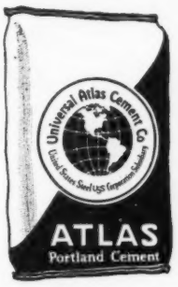

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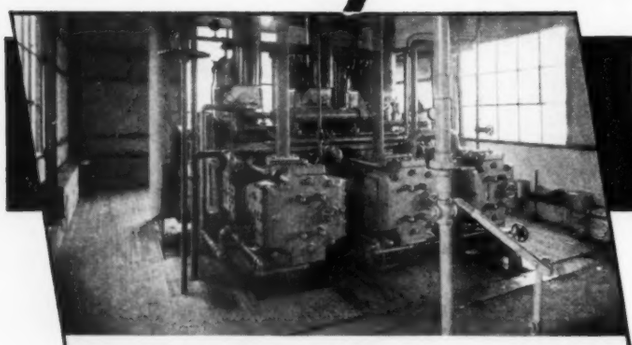
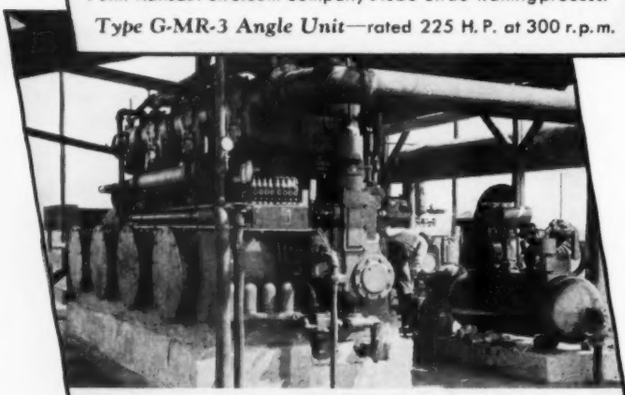
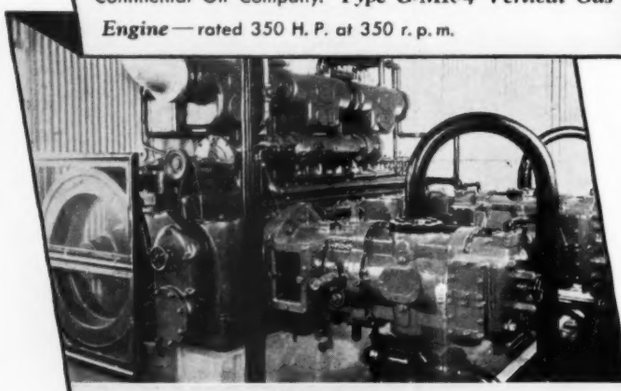


CLARENDON, PA.—Compressing propane for refrigeration in Penn-Kansas Petroleum Company's lube-oil de-waxing process. *Type G-MR-3 Angle Unit*—rated 225 H. P. at 300 r.p.m.



FENTON, LA.—Driving centrifugal oil pipe-line pump for Continental Oil Company. *Type G-MR-4 Vertical Gas Engine*—rated 350 H. P. at 350 r. p. m.



SAN MIGUELITO, CALIF.—Pumping dry gas from Continental Oil Company's Hobson lease into Industrial Fuel Supply Company's main line. *Type G-MR-3 Angle Unit*—rated 225 H. P. at 300 r. p. m.

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Unusual Gas-Handling Methods Feature Wilmington Absorption Plant

By M. E. GARRISON
General Petroleum Corp. of California

The Wilmington absorption plant was built early in 1937 and has already been enlarged several times to keep pace with the rapid development of the field. The distillation unit was so arranged that it could be enlarged in steps to handle a maximum of 560 gallons of lean oil per minute and to handle a maximum of 75,000 gallons of raw gasoline per day. Gas collection, processing, and distribution differ in many respects from other California field practices. This paper will describe the plant and discuss some of the differences from the average practice.

Field Conditions. The discovery well, Terminal No. 1 of the General Petroleum Corp. came in on December 6, 1936. This well is located just west of the north end of the Badger Avenue bridge at the end of Ford Avenue in Wilmington. This well produced 1,389 bbls. of oil and 328,000 cubic feet of gas through a 1½-inch flow bean. The oil was 19.6° A.P.I. gravity and the gasoline content of the gas was 2.48 gallons of 20 pound Reid vapor pressure gasoline per 1,000 cubic feet. The casing pressure was 380 pounds per square inch and the tubing pressure was 240 pounds per square inch. The oil and gas produced was quite warm, approximately 126 °F. at the tubing. The gasoline content of the oil was found to be considerably lower than other California crudes of like gravity.

After observing similar data from several wells and from experimentation with gas trap pressures, it was found that where the gas trap pressures were lowered to 8 to 10 pounds per square inch the receiving tank vapors were found to be so small in quantity that a gas collection system was not necessary or economical. Such trap pressures however, required elevating the trap at a location close to the well receiving tank for gravity flow of the oil.

This pressure permits choosing plant intake pressures of from 2 to 3 pounds with a pressure drop of from 6 to 7 pounds between the well and the plant. This reduces the size and cost of the gathering lines as compared to the usual plant intake pressure of 10 inch mercury vacuum. A preliminary estimate of the quantity of gas to be produced was based on an average daily production of 200,000 cubic feet of gas per well, a figure which has been substantiated fairly well.

Location of the Plant. A four acre site was selected near the Ford assembly plant. The location has several advantages, primarily that it is close to the center of the field and permits the economical use of ocean water for cooling purposes. Its chief disadvantage is the low bearing-load which can be sustained by the soil. All of this land is artificial in the sense that it was formed in the process of dredging the channels and piling up the debris. To provide good foundations for equipment a large number of piles had to be driven.

The site was covered with approximately 18 inches of decomposed granite earth from the Palos Verdes Hills to provide some surface drainage and to diminish the mud troubles in wet weather.

C.N.G.A. — Delivered before December meeting of California Natural Gasoline Association, Los Angeles, Calif.

Plant Layout. The location of equipment was governed by Los Angeles city and county ordinance requirements and by company safe practice. For example, gasoline storage tanks and gasoline loading racks must be at least 30 feet from the property lines; boilers, compressor plants, etc. must be at least 20 feet from such lines; the compressor station must be at least 125 feet from any drilling rig and preferably at least 100 feet from the distillation unit and the gasoline storage tank area. The boilers should be preferably on the windward side of the plant with respect to the prevailing winds, and at least 100 feet from the distillation unit equipment, and on the opposite side of the plant from the gasoline storage tanks. The gasoline loading rack should be located at least 100 feet from any of the plant operating areas. All of these considerations have been met.

While the need of some of these clearances is subject to argument it is generally conceded that distance between hazards increases safety by some function of the distance.

Foundations. A test piling was driven 50 feet before it was adjudged satisfactory and this length was specified for all piles. A loading of 20 tons per pile was used for all stationary equipment and a loading of 20 tons per pile was used at first, later decreasing to 15 tons per pile for all compressor foundations. The loading was decreased in order to diminish vibration.

Six vertical piles were driven under each horizontal gas-engine-driven compressor unit with large concrete bases capping the piles. The latest compressors installed were considerably larger than the horizontal units and are of the vertical type and have in addition to the 50-foot vertical piles a row of 12 inch concrete-filled steel brace piling on each side on 35-foot centers. The brace piles were driven at an angle of approximately 20 degrees from the vertical and slope outward from the center line of the unit.

Where piling was not used under foundations, the soil bearing-pressure was limited to 500 pounds per square foot including the weight of the concrete. This applied to pipe supports as well as to structures.

Absorption Pressure. Absorption at 150 pounds per square inch was selected over 35 to 40 pounds for several reasons; First, dry gas could be delivered to the gas company without further compression and at a premium over 35 pounds per square inch; Second, it permitted the use of con-

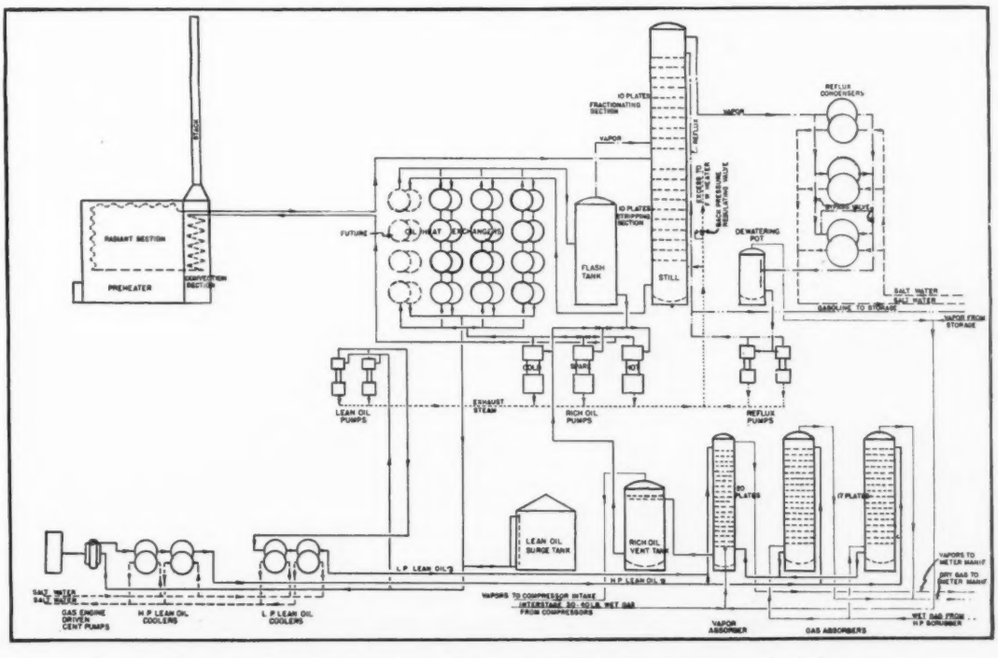

Fig. 1—Flow sheet of distillation unit in the Wilmington absorption plant

siderable equipment available at the Santa Fe Springs absorption plant, particularly a large quantity of piping materials; Third, it increased the recovery of gasoline from the wet gas. Fourth, and due to reduced oil circulation rate it decreased the boiler capacity required; Fifth, it increased the flexibility for expanding the distillation unit and for distributing the dry gas. On the other hand the 150-pound absorption method required considerably greater compressor station installation expense to keep up with the increases in the gas volumes. However, this equipment has the least deterioration and the greatest salvage value.

Two-stage compression was required between the 2-pound intake and the 150-pound discharge pressures. In order to reuse the piping from Santa Fe Springs most economically, all the low-stage compressor units were placed at the one end and all of the high-stage units at the other end of the compressor plant. The auxiliary units were placed between the low- and high-stage compressor units. This necessitated some special controls for balancing the load when a high-stage unit is shut down.

Flow Sheet. (See Figure 1.) The flow sheet incorporates several features which are not new in themselves but which have not been grouped together in this manner before.

The use of a flash tank at the end of the exchangers on the rich oil stream is of interest. The rich oil is pumped from the rich-oil vent tank through the heat exchangers and into the flash tank. The oil entering the flash tank is around 275-285° F. Approximately 80 to 85 per cent of the absorbed gasoline in the rich oil flashes off at this point and enters the main still one plate above the feed plate. The partially stripped oil is again pumped from the flash tank through a direct-fired heater and to the still.

A direct-fired heater of our own design, patterned after refinery practice was built for preheating the rich oil to 350-400° F. It consists of a convection section about 80 per cent to the radiant section and 20 per cent to the convection section. Skin temperatures on the tube walls will vary from 400 to 500° F. At a 200-gallon per minute rate through the heater, the pressure drop is around 26 pounds per square inch.

The use of the flash tank reduces the heat load required in the heater and reduces the volume pumped through the heater thus saving, in fuel, and in pumping costs.

The main still is 7 feet in diameter and has 10 stripping plates and 10 fractionating plates. The fractionating section is rated to handle 75,000 gallons of gasoline production per day with a 2 to 1 reflux ratio. The stripping section will handle a maximum of 560 gallons of oil per minute.

Exhaust steam from duplex pumps is used for agitation steam in the still and for boiler feedwater heat. The pumps used for this purpose are the reflux pumps, the low-pressure lean-oil pumps, and the rich-oil pumps. A back-pressure regulator is used in the exhaust steam line, discharging any excess steam to the feed water heater. By using the curves shown in Figure 2 as a basis, the temperature of the rich oil leaving the heater may be adjusted to prevent blowing any unnecessary steam to the air. As the temperature of the rich oil from the heater rises, the amount of agitation steam diminishes. The amounts of agitation steam required for different still bottom temperatures are shown for three different still operating pressures. It may be noted that the agitation steam requirements are considerably less for the lower pressure. As the temperature of the oil in the still is raised the amount of reflux required increases to make a given specification gasoline. Raw boiler feed water makeup is reduced by returning the condensate from the reflux dewatering tank to the feed water heater.

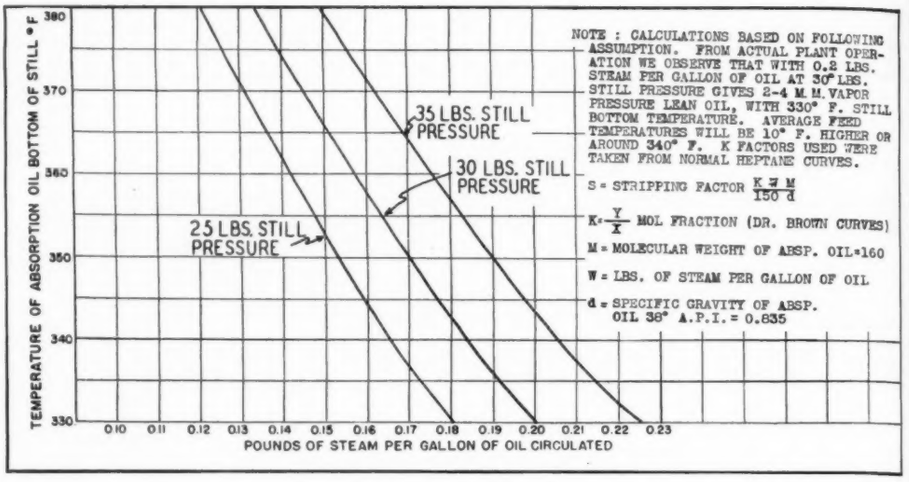
TEMPERATURE OF ABSORPTION OIL BOTTOM OF STILL ° F.
380
370
360
350
340
330
35 LBS. STILL PRESSURE
30 LBS. STILL PRESSURE
25 LBS. STILL PRESSURE
0.10 0.11 0.12 0.13 0.14 0.15 0.16 0.17 0.18 0.19 0.20 0.21 0.22 0.23
POUNDS OF STEAM PER GALLON OF OIL CIRCULATED
NOTE : CALCULATIONS BASED ON FOLLOWING ASSUMPTION. FROM ACTUAL PLANT OPERATION WE OBSERVE THAT WITH 0.2 LBS. STEAM PER GALLON OF OIL AT 30 LBS. STILL PRESSURE GIVES 2-4 M.M. VAPOR PRESSURE LEAN OIL, WITH 330° F. STILL BOTTOM TEMPERATURE. AVERAGE FEED TEMPERATURES WILL BE 10° F. HIGHER OR AROUND 340° F. K FACTORS USED WERE TAKEN FROM NORMAL HEPTANE CURVES.
S = STRIPPING FACTOR K W M / 150 d
K = Y/X MOL FRACTION (DR. BROWN CURVES)
M = MOLECULAR WEIGHT OF ABSP. OIL=160
W = LBS. OF STEAM PER GALLON OF OIL
d = SPECIFIC GRAVITY OF ABSP. OIL 38° A.P.I. = 0.835

Fig. 2—Partial pressure curves based on plant operation, showing approximate relation between agitation steam required for various still-bottom temperatures and pressures

The results of these ideas is a flexible and an economical operating plant. For example when circulating lean oil at a 250-gallon per minute rate and maintaining a rich oil temperature of 355° F. at the heater outlet with a plant output of 33,000 gallons of gasoline per day, the steam load is such that it can be handled by one 85-hp. firebox boiler.

Rich oil from the 150-pound absorbers is vented to 30 pounds in the base of the vapor absorber and again to 5-8 pounds in the rich-oil vent tank. The vapors from the rich-oil vent tank pass to the compressor suction and are the only vapors in the plant that are recompressed. Vapors from the gasoline dewatering pot and from the gasoline storage tanks go to the base of the vapor absorber. The low-stage compressor discharge is also connected to the base of the vapor absorber for emergency loading.

The vapor absorber is 4 feet in diameter and has 20 plates on 18-inch spacing, and can handle approximately 2,000,000 cubic feet of gas.

Liquid level control consists of pilot level controllers operating normally closed-type motor valves. All motor valves are connected to one pilot air supply line so that all can be closed from a remote point in case of fire or another emergency. Electrically operated high level alarms are connected to a signal light on the main control board and also operate a common plant horn.

The lean-oil pumps for the high-pressure absorbers are gas-engine driven. A low-pressure lean-oil pumping circuit was also installed. This arrangement provides an economical method for handling the lean oil as the load upon the plant varies.

Oil Conditioning. An auxiliary vacuum still is operated periodically for reconditioning the absorption oil. The bottoms from this still are recirculated through a separate heating coil in the direct-fired heater. A steam-jet type ejector is used to hold 20 inches of mercury vacuum in the equipment. The reconditioned oil is returned to storage. There is no evidence of oil breakdown in the main absorption oil system due to heating and the need for reconditioning is due only to oil contamination from the gas.

Oil conditioning methods, even in direct-fired heaters is not new. It was used in the San Joaquin Valley oil fields as early as 1921, particularly where emulsification gave trouble with the use of the comparatively heavier gravity absorption oils.

Compressor Station. Several of the compressors moved from the Santa Fe Springs plant were two-cycle units. These were rebuilt into the overhead exhaust type. Exhaust pipes within the compressor building were insulated with a high-temperature asbestos insulation protected by a thin sheet metal cover. This makes a cooler building than air jacketing. Above the building roof a concentric galvanized iron jacket was installed to the top of the muffler. This was open through the roof of the building and to the air above, serving as an air jacket and a chimney to carry off hot air from the compressor building. This jacket hides the muffler and can be painted, whereas the paint does not remain upon the mufflers for any great length of time. This adds to the plant appearance.

Sea Water Cooling System. Average wet bulb temperatures in this area are such that from 80 to 85° F. is about the lowest practical temperature that could be expected from a cooling tower. Ocean water temperatures will average around 65° F. and never exceed 75° F. Electric current for pumping is comparatively cheap and purchased water costs are comparatively high. Those facts led to the use of the ocean water for cooling.

A pumping plant was installed on a wharf the Long Beach channel east of the Ford Plant slip, with an 18-inch steel pipe line to the absorption plant. A gravity return line of vitrified tile was used. Two deep well pumps driven by a 75-hp. totally enclosed vertical shaft electric motors were installed for pumping salt water. With one pump operating on the line, 2,700 gallons of water per minute are pumped; with both pumps operating, 5,000 gallons of water per minute are pumped. This necessitated the installation of a closed-jacket water system with pure water for compressor engine jacket cooling.

Several precautions against sea water corrosion were taken. Air eliminators of the float type were installed to reduce the accumulation of air at the high points in the system. These air pockets are known to accelerate corrosion. Chlorine injection was provided to kill algae and organisms. Brass tubes, either Admiralty or Yorcalbra metal were used, but galvanic action was found to be undesirably rapid between these tubes and the cast iron cases or bodies. To protect the iron, the channels and covers were painted inside with two coats of a rubber insulating paint. Also, three-quarters inch zinc plugs 5 inches long were installed in the channels to absorb the electrolytic energy. These plugs disintegrate in approximately two months' time of operation. If this method does not satisfactorily take care of this problem the Kirkaldy method, or counter electrolytic method, will be tried.

Barnacles have thus far been found only in the first 200 feet or so of the pipe lines from the salt

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CHICAGO JOURNAL OF COMMERCE, November 29, 1937

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We will be glad to send detailed information on the low-temperature impact properties of several well-known Molybdenum steels to any one interested. Climax Molybdenum Company, 500 Fifth Avenue, New York City.

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water pumps. Separate lines were installed from each pump for the first 300 feet from the pump, then connected into a common main. Fresh water is connected into each of these lines so that they may be filled with fresh water when not in operation. It has been found that fresh water kills the barnacles. Either line may be cleaned without interrupting the flow of water to the plant.

Double screens were installed around the salt water pumps. The outer of these screens may be raised for cleaning. Screens were also installed at the ends of the individual pipe line from each pump and at the entrance to each cooler. Considerable thought should be given to the design of these screens because of frequent cleaning without interruption to the flow of water and at short notice.

A 1,000-bbl. skimming tank, 8 feet high and 30 feet in diameter, was placed in the salt water return system. The water entering this tank was carried through a weir box placed across the top of the tank from the edge to the center of the tank. The water discharges vertically from the weir box into the center of the tank. A vertical wood baffle extending from about 18 inches from the bottom of the tank to within about 6 inches of the top of the tank and placed approximately 8 inches in from the shell of the tank was installed around the inside of the tank. On the upper edge of this baffle a skimming trough was installed so that any oil separating out in the quiet space between the baffle and the wall of the tank could be skimmed off. The salt water is removed through two 12-inch pipe connections located up 5 feet on the shell of the tank. These connect into a 24-inch diameter vertical standpipe which in turn connects to a 24-inch diameter vitrified gravity drain line back to the harbor.

Storage Tanks. Two 1,000-bbl. welded gasoline tanks suitable for a working pressure of 40 pounds per square inch were installed, each 12 feet in diameter and 42 feet 6 inches long, with hemispherical heads. Each tank has two outside ring girders which carry the load. The tanks are installed in a horizontal position. One ring girder is bolted to the foundation and the other rests upon rollers to permit movement with temperature changes.

Testing of Materials for Meter Valve Covers and Seats

By F. H. WINSLOW
Southern Counties Gas Co.*

From the time that gas meters were first introduced into the gas industry to measure the volume of gas passed through a line, there has been more or less trouble experienced with various working parts of the meter, such as the diaphragms, bearings, valve covers, seats, and even the case. It therefore was decided to run tests to determine the effect which various foreign substances on the covers and valves would have on the proof of the meter and also what results would be obtained by reducing the valve seat areas, which naturally would decrease the amount of friction or drag of the valve cover.

A number of meters having a rated capacity of between 800 and 1,000 cubic feet per hour were used for the test. The valve seats and covers were of the well-known pot metal type, except a few which had Bakelite covers. All meters were carefully repaired, and 1,000 cubic feet passed through them prior to proof. The meters were then proved and adjusted in the conventional manner on open and check rate of flow. After proving, the valve seats and covers were coated with various materials to produce a "drag," and the meters were again proved to determine the effect of the "drag" on the meter accuracy. An average curve, plotting meter proof against the type of foreign material used to create the drag on the pot metal type valve cover and seat, is shown in Figure 1. An additional curve was obtained in each test after the meter had passed 1,000 cubic feet of air, and these results are shown by dotted lines on the respective figures.

Two different makes of meters were used in these tests, one make having an average valve seat area of 2.383 square inches and the other make 3.113 square inches. The results were in favor of the make meter having the least valve area; however, the difference was so small that an average was made for all the meters run regardless of make or valve area.

The first test was made by coating the valve seats and covers with a light lubricating oil (20 S.A.E.). The meter was then rotated a few times to thoroughly spread the oil on the valves and seats and then proved and the results noted. The meter then was hooked up to the blower and allowed to run for 1,000 cubic feet and again proved and the results noted. The same procedure was followed using vaseline, water, and 600 W oil.

The curve on the left in Figure 1 shows the average proof of the meters using these various coatings, with average valve seat areas of 2.383 square inches and 3.113 square inches for the two different makes of meters, as supplied by the manufacturers. The dotted curve shows the results after 1,000 cubic feet of air had passed through the meter.

The valve seat areas were then reduced on the one from 3.113 to 2 square inches and the other from 2.383 to 1.551 square inches. These results are shown in Curve 2, Figure 1. The valve seat areas were again reduced on the one make from 2 to 1.531 square inches and on the other from 1.551 to 1.144 square inches, and these results are shown in Curve 3, Figure 1.

For some unexplainable reason, Curve 2 in Figure 1 did not show the same tendency as 1 and 3. However, this may be due to the small number of meters used in the test. If Curve 3 had not shown the same tendencies, we naturally would have reason to doubt the speed up as shown in Curve 1 before they were run in. In all probability, had a larger number of meters been tested all of the curves would have straightened out on the light oil and vaseline, but would have shown about the same results on water and 600 W, as the latter two actually introduced a drag, whereas the light oil and vaseline acted as a lubricant; these facts are definitely shown in the curve having the least valve area.

From the results obtained by using Bakelite valve covers instead of the conventional heavy pot-metal covers, it was noted that vaseline on the valves and seats had very little effect on the proof of the meters during the first test. But after they had passed 1,000 cubic feet they definitely slowed up and the proofs corresponded very closely to those shown in Figure 1. This definitely proved that the weight of the valve covers under test could be discounted in so far as producing a drag was concerned.

We believe that it is quite feasible to use valve seats of smaller area, although the seal between the seat and cover would be quite narrow. For meters that are to be set in locations where moisture or oil is present in the gas the small area valve seats would give much better results.

Service tests on valve covers and seats are now being made using various combinations of Bakelite, pot metal, oil light (an oil impregnated bronze), cast iron, and carbon faced valve covers of various grid areas. These field tests are being carried on to find the effect of wear on these various materials because there is some alarm as to whether or not the pot metal seats with reduced area will stand up with respect to wear, and because it may be necessary to use lighter valve covers and possibly cast iron valve seats for actual working conditions. None of these test meters have been in service long enough to give any definite results at this time, nor have any of these combinations been tested as to the amount of drag which they would produce. Next year the results of these tests will be noted and definite conclusions may be stated then.

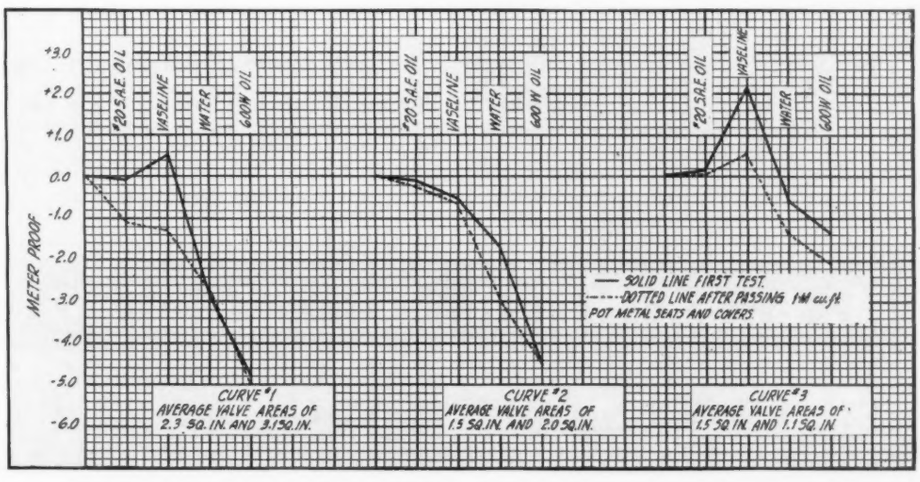

Fig. 1—Test on the effect of foreign substances on valve covers and seats of meters

*Presented before fall meeting of the Pacific Coast Gas Association December 15 and 16, 1937, San Francisco, Calif., under the author's title, "Experiments With Various Materials for Valve Covers and Seats for Use in Positive Displacement Meters."

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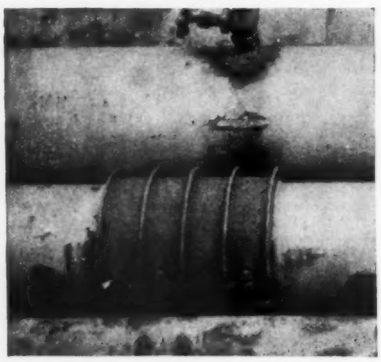

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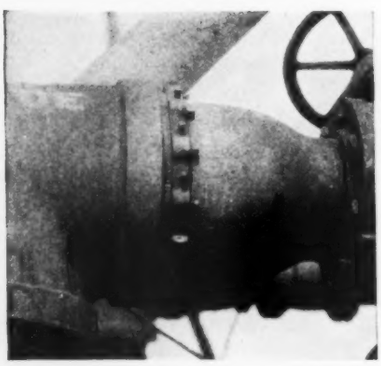

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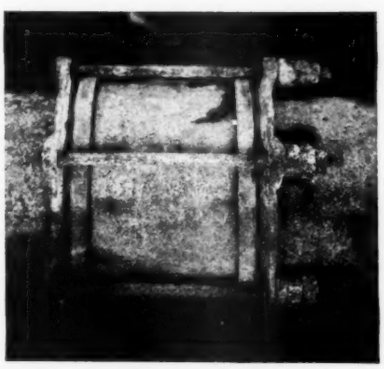

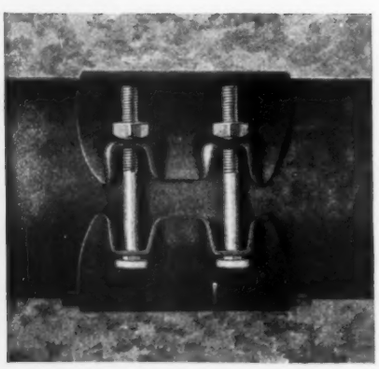

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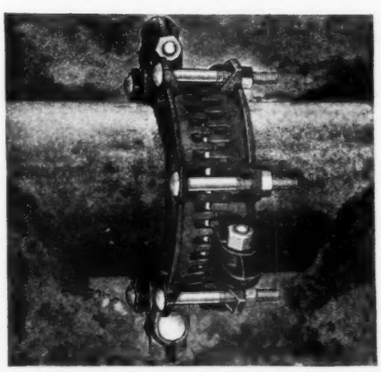
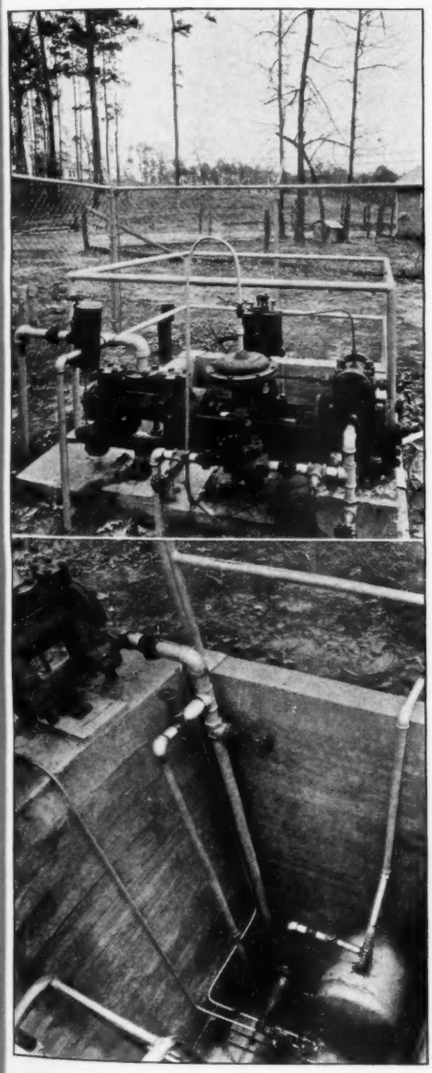


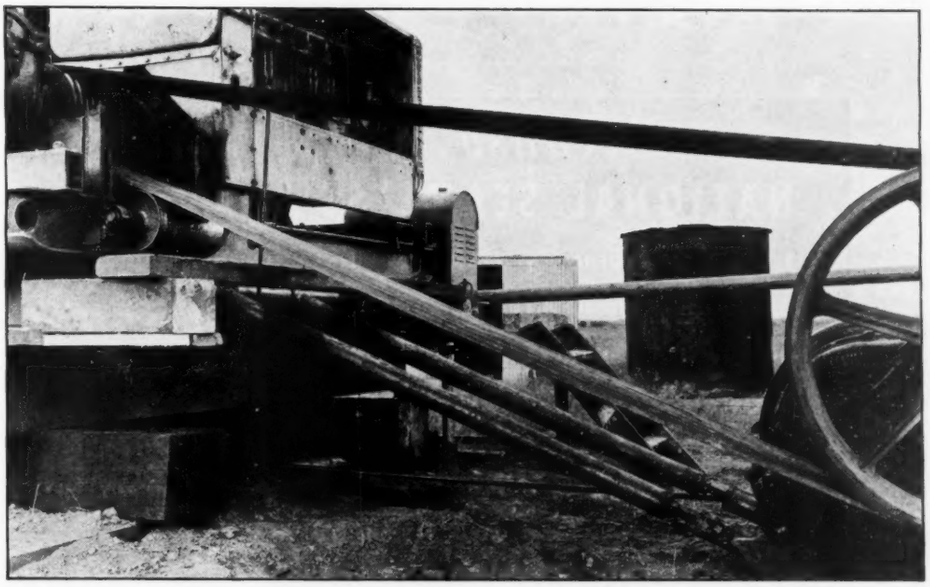
M. B. SKINNER CO. *Est. 1898* SOUTH BEND, IND.

OPERATING IDEAS

Automatic Pump on Gas Drip

A large oil and gas producing company in the Rodessa, Louisiana field has installed an automatic system to take care of accumulating drip gasoline present at all low points on its high-pressure wet gas line. Two views of one of its installations are shown in the accompanying cut, and like units are installed at all low points in the line. At each of these points a baffle is placed in the high-pressure line and the gas is by-passed through an accumulator tank before reentering the line, thus allowing drip gasoline to accumulate in the tank. Liquid level in the tank is controlled by an automatic regulator, so that when the level reaches the set point the controller starts up a pump driven by high-pressure gas from the line. The gasoline is pumped from the tank into a small line paralleling the gas line and leading to a receiver tank at the company's gasoline plant. Some two dozen of these automatic units are in operation and the company has found them to be highly successful.



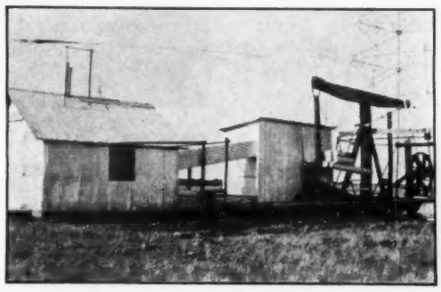


Adjustable Supports for Mud Pump

A drilling contractor operating in the K.M.A. field near Wichita Falls, Tex., designed two adjustable supports to prevent the mud pump from vibrating out of line with the pulley and to enable keeping the pump at the proper distance from the engine. The supports are constructed of two 4-inch pieces of pipe, slotted at both ends and fitted against the skids on the pump and on the engine. At the lower end of the supports are adjustable screws with lock nuts to allow the supports to be kept tight at all times and also acting as belt tighteners.

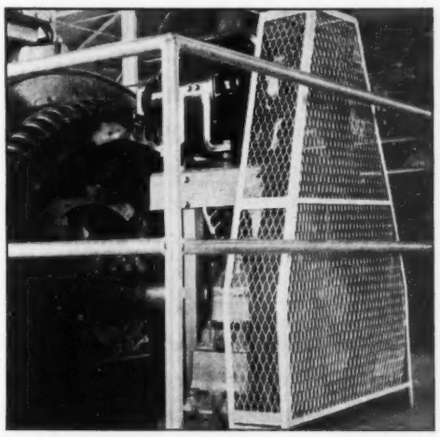
Enclosed Belt Drive

Two tunnel-like enclosures for belting connect the power with the house over the bandwheel at all the wells on a major oil company property in eastern Kansas. The object of this arrangement was the reduction of the hazard when a fire in the power might spread to the bandwheel. During the years that this form of installation has been in use, it has been found that considerable inconvenience is experienced whenever it is necessary to handle the belt. This practice has not been adopted on any of the company's other properties.



Safety Guard on Exciter

On each of several units of a generator plant, operated by an oil company to furnish power for pumping wells in the Fitts pool, a guard has been installed around the high-speed exciter which is mounted on supports attached to the top of a generator outboard-bearing pedestal. The exciter is driven by a V-belt from a sheave attached to the main shaft of a unit consisting of a 312 k.v.a., 4,160-volt, 3-phase, 60-cycle generator driven by a 400-hp. convertible engine operating at present on natural gas from nearby wells.



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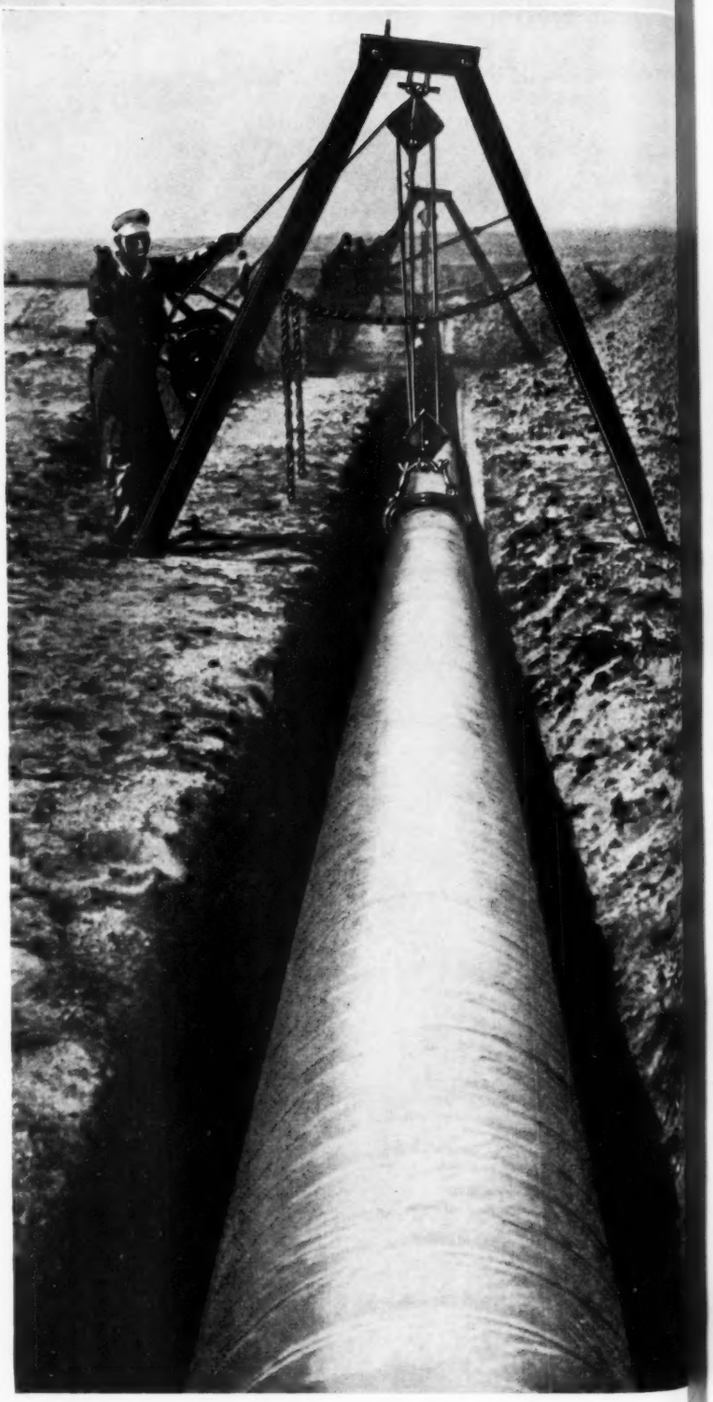

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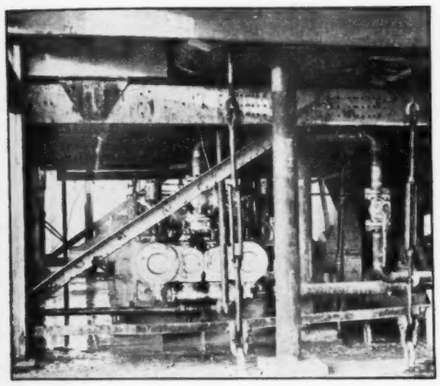
UNITED STATES STEEL

California Rig Spuds in With 11,300-Foot Sand Objective

By T. P. SANDERS

For the first time in history a hole has been spudded with its objective being a known reservoir lying at a depth greater than 11,000 feet. Holes drilled in the past to a comparable depth were all exploratory tests, and most of them reached this depth only because



Under-floor rotary table drive. The 9- by 8-inch twin steam engine uses an enclosed chain drive to turn the rotary-table which is mounted on the floor above it

they failed to find commercial production at shallower levels where it had been expected. Such a test was Union Oil Co. No. 1 Kernco, which discovered the Rio Bravo field in California's San Joaquin Valley.

Because of the outstanding success of this test planned development of the reservoir, lying at a depth of about 11,300 feet, has been undertaken by two concerns. The first offset to the discovery well was made by Superior Oil Co. No. 1 Wagner. A day or two after this well spudded in, a second Union Oil Co. well was started on the opposite side of the discovery. Locations have been made for other nearby wells to be started immediately. Thus development of the deepest known reservoir is under way.

Drilling methods and equipment for these wells are of unusual interest since the operations have been planned to completion unlike other wells of this depth which have necessarily been drilled blindly, meeting obstacles as they were encountered. Plans for the new wells call for the use of only two strings of casing. With such a program, almost 10,000 feet of open hole will be carried below the surface string before the water string is run and cemented just above the oil sand. This plan is considered practicable because it was found in the discovery well that the shales below 8,000 feet were more firmly consolidated than the shallower shales. It is common practice in this area to use two strings in developing the 8,000-foot Stevens sand, so it is believed possible to use the same program for the Rio Bravo sand provided the drilling fluid is properly controlled.

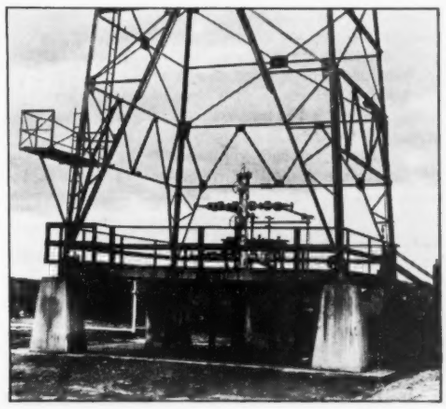
The rig installed by Superior Oil Co. at No. 1 Wagner is the world's heaviest. The 176-foot derrick (32-foot base) is mounted on an 8-foot steel substructure, which in turn is mounted on a concrete pad. Eight-foot sub-bases have also been provided for the drawworks, drilling engine, and auxiliary hoist. The mud pumps are at ground level on the concrete pad. The rotary table is, of course, mounted on the derrick floor above the substructures, but it is driven by an individual table-drive engine which is mounted on the concrete pad below the derrick floor. The chain drive from this engine is enclosed.

Boilers used at No. 1 Wagner weigh about 22 tons, stacks included. They are 135-hp., 350-pound boilers with integral-fired superheaters. Four are used. In this type of boiler, superheat is obtained by passing the steam through small tubes inside of the flues. This gives steam temperatures as high as 575° F. Burners used in the 96-inch fire boxes of these boilers provide for automatic firing and automatic air-gas mixing. Tall stacks are

Type of connector used at No. 1 Wagner. The swivel is held by the drill-pipe elevators instead of by a hook

used, but these are fitted with internal steam jets to provide for greater draft if it is found advisable. The feed-water pumps are built for 350-pounds steam, and have a possible water-discharge pressure of 1,000 pounds. The boiler water is soft and is not treated.

A 1,000-hp. 14 by 14 horizontal-twin roller-bearing drilling engine is used. This drives a fully-enclosed 3-shaft, 3-speed drawworks. In this unit two 9-inch shafts carry the three speeds while the third shaft, which is 7 inches in diameter, is the cathead shaft. Double-chain drive is used on all sprockets. An automatic cathead is



Surface fittings on Union Oil Co.'s No. 1 Kernco, discovery well of the Rio Bravo field, completed at a depth of 11,302 feet

used on one side of the hoist, while a break-out cathead is used on the other side. Both of these use steel line in place of manila for making up joints and handling loads about the rig. The enclosed chain drives make it possible to use a lubricating system whereby the oil is pumped to the moving parts, filtered and returned to the oil pump. Brake rims are 54 inches in diameter and are water jacketed. A 5- by 10- by 5-inch steam pump circulates about 150 gallons of water per minute through these jackets. In addition to these friction brakes, a 40-inch hydromatic brake is used for regulating the speed at which the pipe is lowered into the hole. The drawworks complete weighs 20 tons.

The rotary table with its under-floor drive is built for 350 r.p.m. A 9 by 8 horizontal-twin engine is directly connected to a tail shaft which drives the rotary-table sprocket by means of an enclosed chain drive. Two 15½- by 8½- by 20-inch slush pumps are supplemented by a 14½- by 7½- by 18-inch pump, which is used merely for mixing mud.

The crown block on the 176-foot derrick has six 48-inch sheaves which are mounted with roller bearings on an 11-inch center pin. This block has a dead-load capacity of 350 tons. The traveling block is of similar construction but has five 42-inch sheaves. No hook is used below the traveling block. Instead a connector is used which carries the drill-pipe elevators at all times. The swivel is built to be held by the elevators instead of by a hook. With this arrangement it is not necessary to lay down the elevators or carry them idle while drilling is in progress.

Progress in METALS

By W. L. NELSON

Impact Strengths of Vanadium Steel Castings

A recent publication of the Vanadium Corp. entitled "Vanadium Steel Castings," contains useful information concerning the low-temperature impact strength of these steels. With the continual development of low-temperature processes of dewaxing and treating, the low-temperature shock resistance of metallic materials is becoming of great importance to the refinery branch of the oil industry.

The Charpy impact values given in the following tabulation are typical of vanadium castings in the normalized and tempered conditions.

Composition of steel					Charpy impact (ft. lb. at °F.)			
Va	C	Mn	Si	Ni	70	0	—25	—50
.15	.34	.87	.37	..	22.0	17.5	15.5	14.0
.10	.33	1.50	.37	..	39.5	34.5	32.0	27.5
.10	.30	.97	.37	1.5	36.5	31.0	27.5	25.0

The compositions of the steels were: Carbon steel 0.15 C, 0.061 Si, 0.497 Mn; silicon steel, 0.30 C, 0.23 Si, 0.91 Mn.

Fatigue Strength of Butt Welds

Although welds are not usually exposed to repeated stresses as defined by the "fatigue test" of metals, situations do occasionally arise in which butt welds must sustain repeated stress conditions particularly in repair work or emergency repairs. Perhaps butt welding has been rejected in many instances as a method of repair or construction simply because of uncertainty regarding the suitability of welds for fatigue conditions. One thing is certain, welding is becoming of more and more importance as a method of joining metals and as we gain more confidence and knowledge of the applications of welding, it may become the most important tool that the plant engineer has for construction in metals.

Tests of the fatigue strength of butt-welds have been reported recently by W. M. Wilson as "Fatigue Tests of Butt Welds in Structural Plates" in the Welding Journal, October, 1937, page 23 in the welding research supplement section of the magazine. Table 1 indicates average results of the tests and also fatigue tests of the two steels that were studied.

The fatigue strengths are reported for 2,000,000 reversals of stress from a tension of 200,000 pounds per square inch to a compression of 200,000 pounds per square inch. The welds were made by hand using a shielded-arc, metallic-arc electrode. Other tests using automatic carbon arc welds were also made but the results are not given in Table 1. In general, the automatic welds were only slightly better than the hand-welded specimens, and the carbon steel welds failed at the edge of the welds even for the specimens which were planed flush with the plate. However, the silicon steel welds tended to fail through the weld, particularly those specimens that were planed flush with the plate.

TABLE 1—FATIGUE STRENGTH OF PLATE, BUTT WELDS AND RIVETED JOINTS

Kind of Steel	Type of Specimen	Strength lb. per sq. in. Static	Strength lb. per sq. in. Fatigue	Ratio of Fatigue Strength to Tensile Strength
Carbon	Plate with mill scale	61,800	30,300	0 49
Carbon	Riveted Joint	63,250	27,130	0 43
Carbon	Welded—planed flush with base plate on both sides	54,500	27,900	0 51
Carbon	Welded—as welded	54,500	21,800	0 40
Carbon	Welded—purposely poorly welded	54,500	20,600	0 38
Silicon	Plate with mill scale	80,800	35,800	0 44
Silicon	Riveted Joint	88,050	26,680	0 30
Silicon	Welded—planed flush with base plate on both sides	80,700	24,000	0 30
Silicon	Welded—as welded	80,700	23,700	0 29

Metallurgical Terms
Wrought Steel Pipe

The term "wrought steel" should not be confused with the term "wrought iron." If wrought iron pipe is desired it is necessary to have some understanding of what is meant or otherwise to specify *genuine* wrought iron. Genuine wrought iron is slightly more resistant to some types of mild corrosion than steel—notably the attack of certain hard waters.

The price of genuine wrought iron pipe is greater than the cost of mild steel pipe and the wrought iron pipe is not considered as superior except with respect to its resistance to corrosion. The confusion in names arose many years ago when modern methods of steel manufacture were not perfected and wrought iron was greatly superior to most steels. As better steels were manufactured they were named wrought steel in order to instill confidence in the mind of the purchaser.

Symposium on Wear of Metals

Six comprehensive technical papers comprising the Symposium on Wear of Metals were presented in two sessions of a meeting held in Philadelphia, April, 1937, under the auspices of the A. S. T. M. Philadelphia district committee. The papers were prepared by technologists who are thoroughly conversant with many of the problems of wear resistance and wear testing.

It is indicated that this is probably the first symposium on the subject of metallic wear and this is surprising because of the enormous importance of the subject. A concrete idea of the important topics covered by the respective authors will be given by a review of the list which follows:

Considerations Involved in the Wear Testing of Metals—H. W. Gillett.

Some Important Variables Encountered in Wear Tests of Cast Iron—D. E. Ackerman.

Wear of Metals from the Automotive Viewpoint—W. E. Jominy.

Wear from the Power Equipment Viewpoint—Norman L. Mochel.

Wear of Metals in the Textile Industry—Albert Palmer.

Wear of Metals from the Railroad Standpoint—L. W. Wallace.

Paperbound copies may be obtained by nonmembers from the society at 260 South Broad Street, Philadelphia.

Rate of Oxidation of Pipestill Tube-still Metals

Oxidation tests at 1,000°, 1,250° and 1,500° F. were conducted by White, Clark and Wilson in conjunction with a study of high temperature rupture strengths of steels as reported in their paper "The Rupture Strength of Steels at Elevated Temperatures" which paper was presented before the annual convention of the American Society for Metals at Atlantic City, October 18-22, 1937.

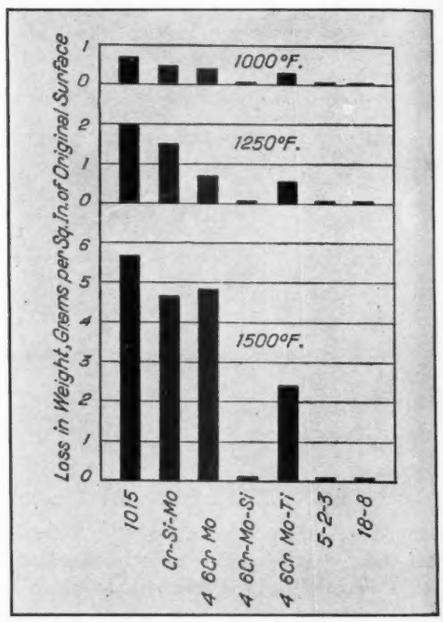


Fig. 1—Comparative oxidation resistance of designated steels at indicated temperatures

The steels that were examined had the following chemical compositions:

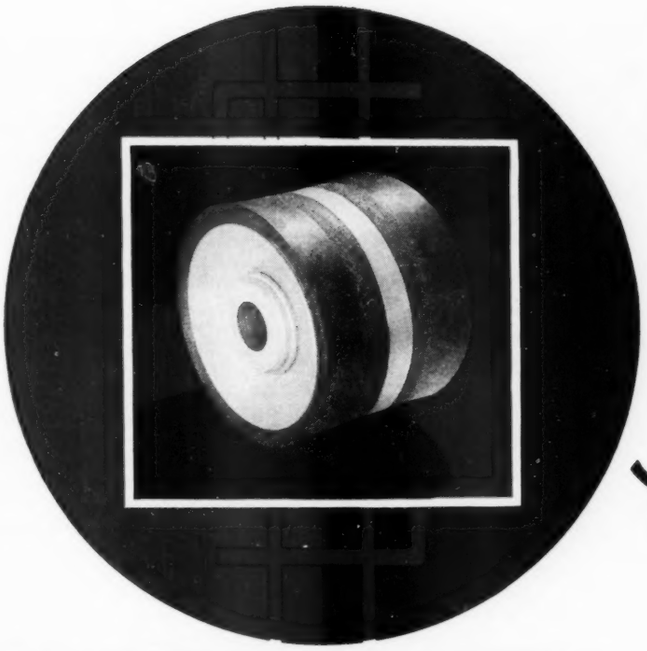
No.	Steel*—	Chemical composition C	Mn	Si	Cr	Mo	Others specials	Heat treatment deg. F.
1a	Open hearth carbon	0 15	0 46	0 28	.....	....	....	Ann. 1550
1b	Electric carbon	0 15	0 50	0 23	.....	....	....	Ann. 1550
2	Chrome, silicon, moly	0 07	0 42	0 72	1 24	0 54	....	Ann. 1550
3	5 Chrome moly	0 10	0 45	0 18	5 09	0 55	....	Ann. 1550
4	5 Chrome moly silicon	0 10	0 38	1 55	4 83	0 51	....	Ann. 1550
5	5 Chrome moly titanium	0 10	0 44	0 38	4 98	0 50	0 51	Ann. 1550
6	5-2-3 Chrome silicon moly	0 12	0 42	2 24	5 54	2 77	....	Nor. 1800
7	18-8 Chrome nickel	0 06	0 50	0 61	17 75	....	9 25	W. Q. 2000

Ann.—Annealed; Nor.—Normalized; W. Q.—Water Quenched.
*Samples supplied by the Timken Roller Bearing Co.

The relative oxidation resistance of these steels is indicated graphically in Figure 1. The specimens were heated for 1,000 hours at the designated temperatures in closed electric muffle furnaces. The beneficial effect of silicon in halting high-temperature oxidation is forcefully indicated by the results with the fourth and sixth specimens which contained respectively 1.55 and 2.24 per cent of silicon.

These oxidation tests were conducted for the purpose of determining why the curve of tensile strength at an elevated temperature when plotted against time for rupture was not a consistant curve. The rupture strength of those materials that oxidize markedly, drops off rapidly after a few hours of heating. Thus, the rupture strengths at 1,300° F. of the several steels began to drop rapidly after the lengths of time given in the following tabulation:

	Hours for drop in strength
Electric carbon steel	8 at 1300° F.
Chrome silicon moly, and 5 Chrome moly	100 at 1300° F.
5 Chrome, moly, silicon	more than 2268 at 1500° F.



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Subsurface Disposal of Oil Field Brines in Southern Louisiana

By DONALD E. FUELLHART
Louisiana Department of Conservation

At the present time there are fifty-two producing oil fields in South Louisiana. The disposal of salt water produced with the oil in South Louisiana fields is a serious problem because of the pollution involved. The pollution of fresh water bodies damages commercial and recreational fishing and agriculture since the fresh water bodies are the main source of supply for irrigating the rice crop. Damage is claimed to be done to the shrimp, crab, and oyster fishing industry along the Gulf Coast by pollution from oil field brines.

Disposal Practices

In many cases the oil field brines are stored in earthen pits or reservoirs in or near the oil fields, to be turned loose to the natural drainage in the winter months when the rainfall is sufficient to cause dilution to such an extent that pollution is greatly lessened. Irrigation is not practiced in the winter months. However, in some cases the storing of oil field brines in open pits has become impractical because of the volumes to be stored. This increased volume may be due to the natural influx of salt water as the oil is withdrawn from the reservoir, and in some instances the greatly increased volumes are no doubt due to having produced oil at a too rapid rate in the past and failure to take corrective steps to shut off the salt water in the wells. In the marsh areas, storing of the brines in reservoirs or pits is almost prohibitive, because of the cost and is often unsuccessful because of seepage through and beneath earthen dykes of reservoirs.

In South Louisiana the practice of disposing of the oil field brines by pumping them back into subsurface reservoirs through a well was first inaugurated by the Texas Co. in the Lake Barre field in November, 1933. In August, 1935, the Union Sulphur Co. started their subsurface salt water disposal operation in the Gillis field; and in November, 1936, the Texas Co. operated their disposal plant in the Caillou Island field.

During the months of May, June, July, and August, 1937, five additional plants for the subsurface disposal of oil field brines have been put into operation, making a total of eight fields at this writing.

It appears at present that this method of disposal of oil field brines is very practical in the Gulf Coast area of South Louisiana. Operators must obtain a permit from the department of conservation to drill a well for salt water disposal, although no fee is charged as when drilling for oil or gas. In case a well which has already been drilled is to be used as a disposal well, approval of the department must be obtained before proceeding with such operation.

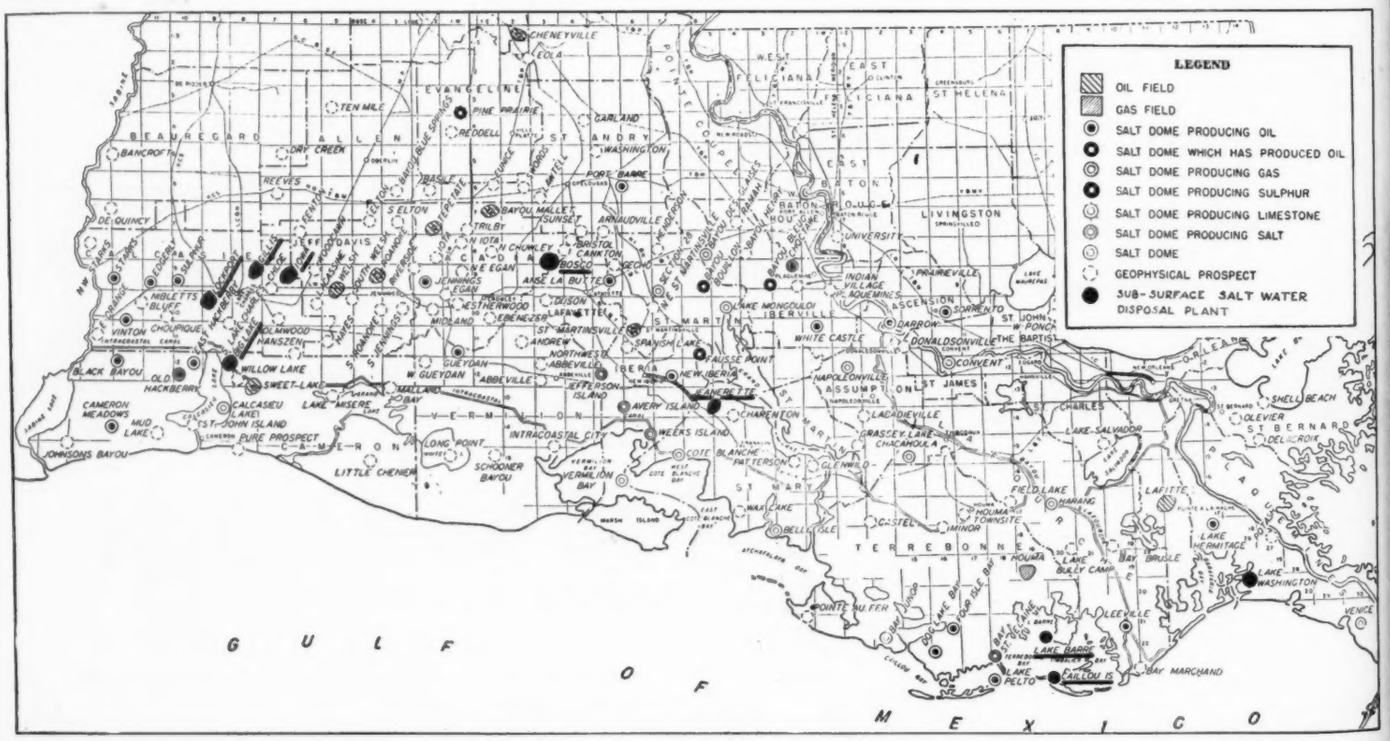
In gathering material for the preparation of this article, it is apparent that very little technical data have been gathered or recorded so far. It is suggested, in connection with all salt water disposal plants to be put into operation in the future, that all possible technical data be obtained, in order to insure successful operations and to facilitate the dissemination of such information. These technical data would include thickness, porosity, and permeability of the injection sand, analysis of the brine returned to the subsurface formations and the salt water contained in the injection sand, a more accurate and detailed record of the volumes pumped and pressures required, and any other data of a technical nature which might affect the installation and successful operation of future plants.

Details of operations in various parishes follow: (Information on the Iowa field of Calcasieu Parish contained in the author's original report has been omitted.)

Calcasieu Parish—Gillis Field

The Union Sulphur Co. completed its Gillis Water Well No. 1 on August 9, 1935, at a total depth of 1,583 feet with 110 feet of sand from 1,470 feet to 1,580 feet.

The well was completed with two joints of Lane and Bowler 60 mesh—4½ inch screen. An average daily volume of 2,700 bbls. of salt water has been injected into the sand since completion, which has required pump pressures ranging from 50 to 225 pounds per square inch. A total volume of 1,699,000 bbls. of salt water had been injected into the sand to November 1, 1937. One



Map of southern Louisiana showing location of subsurface salt-water disposal projects. Compiled by the Louisiana Geological Survey

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UNION SULPHUR CO.—GILLIS WATER WELL NO. 1. GILLIS FIELD

Location: 272 feet west and 181 feet south of the southeast corner of the northeast quarter of Section 11, Township 9 South, Range 8 West, Calcasieu Parish, Louisiana.
Started drilling: July 29, 1935.
Completed drilling: August 2, 1935
Total depth: 1,583 feet shale.
Casing record: Set 10 inches second-hand casing at 1,470 feet and cemented with 200 sacks cement.

Liner record:

1′ – 3″	4½″ Brack back pressure valve
44′ – 1″	4½″ Screen, L&B 60 mesh—2 Jts.
0′ – 9″	4½″ x 5″ Swage
101′ – 7″	5″ Pipe—5 Jts.
0′ – 9″	1—5″ x 8″ Swage
7′ – 0″	8″ x 10″ Packer
155′ – 5″	Total (All galvanized)

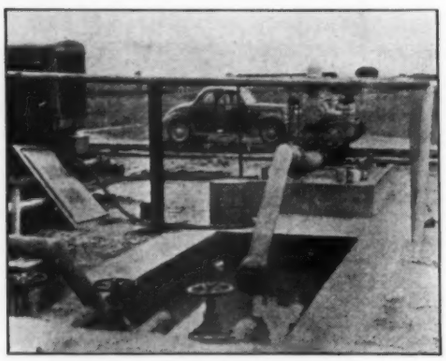
Results: This well was equipped as an injection well for salt water. Completed 8/9/35. Set tubing on seal at 1,428 feet.

From	To	Formation
0	16	Surface clay
16	25	Log
25	61	Surface clay
61	194	Sand
194	293	Shale
293	466	Sand gravel
466	487	Shale
487	650	Sand and gravel
650	781	Shale
781	849	Sand and gravel
849	855	Gumbo
855	870	Sand
870	880	Gumbo
880	945	Sand and gravel
945	980	Gumbo
980	997	Sandy shale
997	1,344	Sand and gravel
1,344	1,371	Gumbo
1,371	1,385	Sand core 1,373—1,381 missed
1,385	1,411	Shale core 1,384—1,388 missed
1,411	1,414	Sandy shale
1,414	1,425	Shale core 1,413—1,417 missed
1,425	1,431	Sand core 1,427—1,431 sandy shale
1,431	1,464	Sandy shale
1,464	1,470	Shale
1,470	1,580	Sand cores very little sand 1,474—1,475; 1,475—1,477 core sand 1,477—1,488. Missed cores 1,483—93; 1,493—97 core 1,497—98 sand
1,580	1,583	Shale

Lockport Field

The Magnolia Petroleum Co. in a joint operation with the Gulf Refining Co. made a salt water disposal well of its No. 34 Charles Miller Estate, which was an abandoned oil well at a total depth of 4,392 feet. The hole was plugged back to 2,000 feet, and the 7-inch casing was perforated from 1,703 to 1,840 feet with 241 shots. On May 17, 1937, salt water was injected at the rate of 4,000 bbls. per day, which required 125 pounds of steam pressure.

On June 18, the rate of injection was 7,100 bbls. per day. The steam pressure on the pump was increased to 175 pounds, and the well head pressure ranged from 325 pounds to 350 pounds. The brine is injected into the well from a central earthen storage pit by a 14 by 7¼ by 14 pump. To date, 1,084,000 bbls. of salt water have been injected into the well.



Suction pit and pump at Union Sulphur Co. Big Lake field disposal project

MAGNOLIA PETROLEUM CO. NO 34 CHARLES MILLER ESTATE, LOCKPORT FIELD

Location: 262.8 feet north and 314.4 feet east of the southwest corner of the northeast quarter of section 9, Township 10s, Range 9w, Calcasieu Parish.
Started drilling: June 29, 1934.
Completed drilling: August 1, 1934.
Total depth: 4,392 feet; oil sand.
Casing record: 13⅜-inch casing at 1,265 feet; 7-inch casing at 4,370 feet.

From	To	Location:
0	9	Surface
9	35	Marsh vegetation
35	83	Sand
83	200	Clay
200	240	Sand
240	285	Shale
285	315	Sand
315	415	Sticky shale
415	570	Sand and gravel
570	610	Sticky shale
610	690	Sand
690	750	Sticky shale
750	780	Sand
780	845	Gravel
845	900	Gumbo
900	915	Sandy shale
915	1,100	Sticky shale
1,100	1,260	Sand
1,260	1,325	Shale
1,325	1,350	Sand and shells
1,350	1,492	Sand and shells
1,492	1,605	Sandy shale
1,605	1,640	Shale
1,640	1,644	Hard sand
1,644	1,690	Shale
1,690	1,848	Sand with hard streaks
1,848	1,858	Sticky shale
1,858	1,860	Sandy lime and pyrites
1,860	1,950	Sand and lime
1,950	2,076	Sand and sandy lime.

St. Landry Parish—Bosco Field

Superior Oil Co. in a joint operation with the Pure Oil Co. stored its oil field brines in large earthen pits to be disposed of during the rainy season of the winter months by bleeding to the natural waterways. Rapidly increasing volumes of salt water produced rendered this method of disposal uneconomical.

On May 14, 1937, it completed a salt water disposal well north of the field at a total depth of 3,498 feet.

Casing, 9⅝ inches diameter, was landed at the total depth. The casing was slotted with one-half inch by 4-inch slots of ten rows on 7-inch centers from 3,223 feet to 3,417 feet and from 3,457 feet to 3,498 feet. It was run as a combination string with a cast-iron baffle plate set in the collar directly above the perforations and below the cement holes at 3,183 feet. The casing was cemented from 3,185 feet to the surface using 650 sacks of cement. The cement and baffle plate were then drilled out.

Since the original completion, a liner has been set inside the 9⅝-inch combination string as follows:

Bottom	41 92′	perforated
	51 94′	blank
	216 57′	perforated
Top	31 28′	blank
Total	341 71′	

Size 7 inches OD
Perfs. .062 x 2 inch slots.
Set on bottom at 3,498 feet.

Salt water is injected into the formation by one 4 inch by 4 inch, six-stage centrifugal pump with a rating of 15,000 bbls. per day at 1,000 pounds pressure. The pump is driven by a 375 hp. 3,600 r.p.m. turbine. The injection sand is receiving 15,000 bbls. of salt water daily, which is by far the largest amount per day pumped into any of the injection wells.

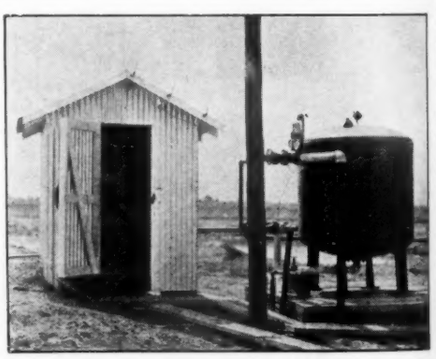
SUPERIOR OIL CO. SALT WATER INJECTION WELL—BOSCO FIELD

Location: 770 feet North and 2,131 feet East from the Southwest Corner of Southeast Quarter of Section 25, Township 8 South, Range 3 East, St. Landry Parish, Louisiana.
Completed: May 14, 1937.
Casing record: 9⅝ inches—47 6 lb. St'd Smls. at 1,399 feet and 9⅝ inches—40 0 lb. St'd. Smls. at 3,498 feet.

From	To	Formation
0	120	Surface clay and sand
120	423	Sand and shale
423	1,072	Sandy gravel and clay
1,072	1,326	Sand, shale and gravel
1,326	1,565	Shale
1,565	1,568	Shell
1,568	1,883	Shale w/hard streaks
1,883	2,067	Sand and shale
2,067	2,742	Shale w/streaks of sand
2,742	3,095	Shale and sand
3,095	3,498	Shale and sand w/hard streaks

Cameron Parish—Big Lake Field

The Union Sulphur Co. in a joint operation with the Magnolia Petroleum Co. completed its salt water well No. 1 on June 23, 1937, at a total depth of 1,883 feet. Although there were only two producing oil wells in the field at this date, these companies made early preparation for the disposal of their oil field brines. Magnolia Petro-



Pump house and filter at Herton Oil Co. injection well in the Jeanerette field

SCHEDULE OF DATA—SALT WATER DISPOSAL WELLS

Field / Input well	Total depth-feet	Depths of injection sand-feet	Casing Record: size inches	Casing Record: depth feet	Method of completion	Daily Vol. salt water barrels	Cumulative vol. salt water to Nov. 1, 1937	Pump pressure required at well head pounds	Date operation began	Remarks
Big Lake—Union Sulphur Co. salt water well No. 1	1,883	1,863-1,883	7	1,855	Screen	800	104,000	150	6-23-37	Drilled for salt water disposal well
Gillis—Union Sulphur Co. salt water well No. 1	1,583	1,470-1,580	10	1,470	Screen	2,700	1,699,000	50 to 225	8-9-35	Drilled for salt water disposal well
Iowa—Shell Petrol. Corp. F. Heyd disposal well No. 1	1,982	1,604-1,982	9⅝	1,604	Liner	4,800	467,000	225 to 325	7-11-37	Drilled for salt water disposal well
Lockport—Magnolia Petrol. Co. Chas. Miller Est. No. 34	4,392	1,690-1,848	13⅜ 7	1,265 4,370	Casing perf.	7,100	1,084,000	325 to 350	5-17-37	Abnd. oil well plug back to 2,000 feet
Bosco—Superior Oil Co. tank farm No. 1	3,498	3,223-3,498	9⅝	3,498	Casing perf. & liner	15,000	2,025,000	725 to 775	5-14-37	Drilled for salt water disposal well
Jeanerette—Herton Oil Co. R. C. Banta No. 3	9,005	1,334-1,366	13⅜	1,321	Screen	650	95,000	0	5-1-37	Abnd. oil test bridged at 1,366 feet
Caillou Island—The Texas Co. State Caillou Island No. 43	778	242- 471	10	471	Casing perf.	670	204,000	10	11-30-36	Drilled for salt water disposal well
Lake Barre—The Texas Co. State Lake Barre No. 23	1,030	888-1,030	9	875	Liner	5,000	7,600,000	50	11-14-33	Drilled for salt water disposal well

leum Co. had several months' experience previous to this in their Lockport plant, and Union Sulphur Co. had several years' experience in their Gillis plant. It seems quite evident, therefore, that this method of disposal of oil field brines is successful, both from an operating and economic viewpoint. To November 1, 1937, a total volume of 104,000 bbls. had been injected into the sand at an average daily rate of 800 bbls. The pressure required was 150 pounds.

UNION SULPHUR CO. SALT WATER WELL NO. 1
BIG LAKE FIELD

Location: 1,180.2 feet north and 4,027.4 feet west of southeast corner of section 18, Township 12 South, Range 8 West, J. O. Hebert tract, Cameron Parish, Louisiana.
Started drilling: June 10, 1937.
Completed drilling: June 13, 1937.
Total depth: 1,883 feet salt water sand.
Casing record: Set 7 inches OD, 26 pounds, 8 thd. South Chester Casing at 1,854 feet 6 inches using 397 sacks of cement.

Liner record:

1′ – 2″	5 inch back pressure valve
21′ – 1″	5 inch L&B (on galv. pipe) screen (Wire wrapped inside)
31′ – 10″	5 inch—15 pound liner
8′ – 10″	7″ by 5″ packer
62′ – 11″	Total

From	To	Formation
0	190	Surface sand and clay
190	288	Shale
288	322	Sand
322	363	Shale
363	468	Sand and shale
468	489	Sand
489	532	Shale
532	597	Sand and gravel
597	704	Shale
704	886	Sand and gravel
886	915	Sand, gravel and shale
915	945	Sand and shale
945	1,050	Sand and gravel
1,050	1,114	Sand, shale and small boulders
1,114	1,410	Sand and gravel
1,410	1,430	Sticky shale
1,430	1,438	Sandy shale
1,438	1,450	Sand and shale
1,450	1,530	Sand and gravel
1,530	1,540	Sandy shale
1,540	1,545	Sand
1,545	1,547	Sand and shale
1,547	1,595	Shale-core 1,545-66, sand and shale 2 feet, shale 19 feet.
1,595	1,599	Sandy shale
1,599	1,627	Sticky shale and lime
1,627	1,632	Sand
1,632	1,677	Sticky shale-core 1,633-51 sticky shale
1,677	1,682	Sand
1,682	1,702	Sandy shale-core 1,682-1,702 sandy shale
1,702	1,790	Shale
1,790	1,816	Sand and shale
1,816	1,843	Sand—missed core 1,823-1,843
1,843	1,863	Sandy shale-core 1,843-48 sandy shale
1,863	1,883	Salt water sand-core salt water sand

St. Mary Parish—Jeanerette Field

One of the most interesting operations for disposal of oil field brines in South Louisiana is that of the Herton Oil Co. in the Jeanerette field. Its R. C. Banta No. 3 was abandoned as a dry hole June 18, 1936, at a total depth of 9,005 feet. The well bridged over at 1,366 feet and was completed as a salt water disposal well at that depth according to the following data.

Before dismantling rig, the well was set with 9⅝ inch screen, same being landed at 1,366 feet so as to use well for salt water disposal.

Casing record—Set and cemented: 43 jts. of 13⅜ inch OD 48 pound thd. Nat'l. A.P.I. Smls. Grade C Range 2 casing 1,286 feet 1 inch (overall) 1 jt. of 13⅜ inch OD 54.5 pound 8 thd. Std. Smls. A. P. I. Grade C Range 2 casing 31 feet 8 inch (overall). Bottom joint with set shoe welded. Total casing: 1,317 feet 9 inches.

In order to make a salt water disposal well, the following was done: Well was washed clean from 1,350 feet back to bottom of surface casing, and the bailer run to get sample of water in the strata of sand at this point. The water was distinctly salty.

Well was then set with: 1 jt. of 9⅝ inch OD 914 Ga. L&B GWW Screen with C.I.B.P. Valve in bottom coupling—31 feet 11 inches. 3 jts. of 9⅝ inch 44.3 pound 8 thd. Std. Smls. Grade D Range 2 Casing (blank liner) 88 feet 6 inches (less thds.). 1 9/5 inch shop made J tool (female end) 3 inch set at 1,366 feet (bottom of screen— d.f. measurement) (no packer used) job completed 6-19-36.

The disposal plant consists of an earthen settling pit, an electric motor driven centrifugal pump, a filter, and the disposal well which are

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20 Thrust Bearing on Bottom Hook
21 Oil Hole Covers

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● The inherently fine construction of the Wright High Speed Hoist makes it an exceptionally efficient production tool.

Every feature of this hoist spells quality—the zinc coated finish which defies corrosion; the precision load wheel bearings; the load chain guard and all the rest of the twenty-one features, assure you a hoist which will amply meet all requirements.

The illustration above shows a Wright High Speed Hoist in use as a production tool in a large rubber plant. This is but typical of the many industries which consider the Wright to be just right for their purposes.

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all located within an area 40 feet wide by 80 feet long. The pump is an Allis Chalmers 1¼ inch by 1¼ inch, runner diameter 5½ inches, speed 3,500 r.p.m. The filter has a capacity of 3,000 bbls. per day, manufactured by Wm. B. Scaife and Sons.

The injection operation started May 1, 1937, and shortly thereafter a siphon action began which siphoned the salt water from the pit through the pump and filter into the well. This siphon action continued, making it unnecessary to operate the pump, until the daily volume of injection reached approximately 500 bbls. When the daily volume of injection is over 500 bbls. it becomes necessary to operate the pump. The filter is washed with fresh water every 24 hours.

Terrebonne Parish—Caillou Island Field

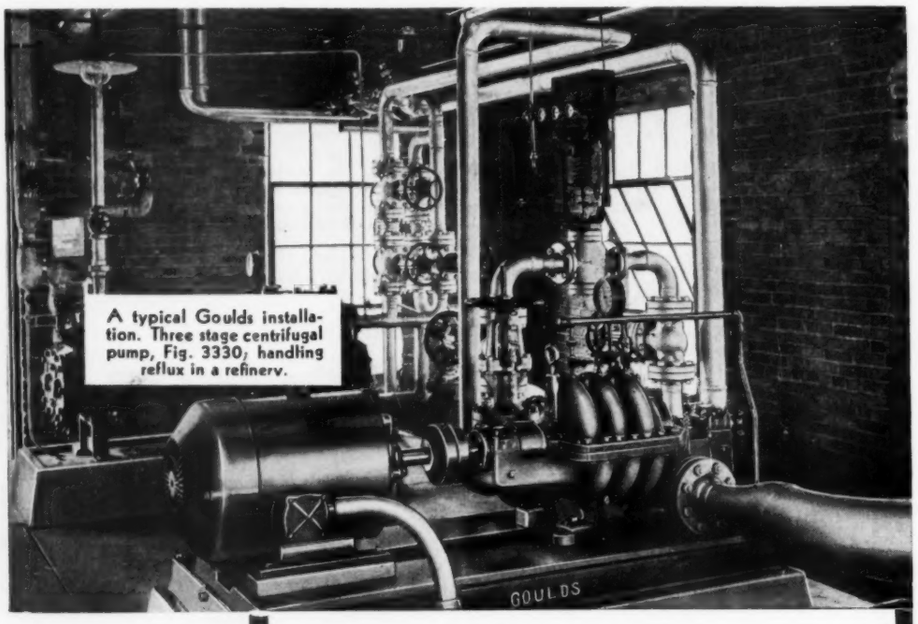
On November 30, 1936, the Texas Co. began operating its State Caillou Island No. 43 well as a salt water injection well, which had a total depth of 778 feet. The injection sand ranges from 242 feet to 471 feet. At the time of completion, a test showed the formation would take salt water at the rate of 850 bbls. per hour under a pressure of 80 pounds.

TEXAS CO. STATE-CAILLOU ISLAND NO. 43—CAILLOU ISLAND FIELD

Location: 963 feet South and 2,234 feet East of Northwest Corner of Section 20, Township 23 South, Range 20 East, Terrebonne Parish, Louisiana.

Casing record: 102 feet 18⅝ inch OD casing.
471 feet 10 inch OD casing.
The 10 inch casing was perforated from 267 feet to 471 feet.

From	To	Formation
0	102	Surface clay and shells
102	152	Surface clay
152	242	Shale
242	471	Sand
471	754	Shale
754	778	Sandy shale



A typical Goulds installation. Three stage centrifugal pump, Fig. 3330, handling reflux in a refinery.

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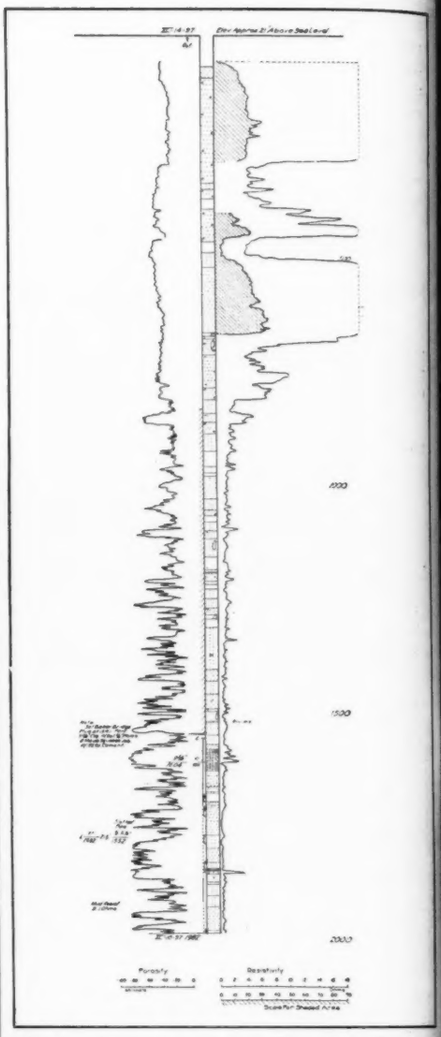

Electrical survey of a salt water disposal well in the Iowa district, Calcasieu Parish

Terrebonne Parish—Lake Barre Field

The first operation for subsurface disposal of oil field brines in South Louisiana, of which we have record, is that of the Texas Co. in the Lake Barre field which began November 14, 1933. Its State Caillou Island well No. 23 was drilled 6 feet into the salt at a total depth of 1,090 feet.

TEXAS CO. STATE-LAKE BARRE NO. 23—LAKE BARRE FIELD

Location: 2,199 feet South and 506 feet West of Northwest Corner of Section 30, Township 21 South, Range 20 East, being in Section 36, Township 21 South, Range 19 East, Terrebonne Parish, Louisiana.

Casing record: 108 feet 12½ inches OD casing
875 feet 9 inches OD casing
1,007 feet 5 inches liner
Bottom of liner perforated for 158 feet.

From	To	Formation
0	114	Surface
114	211	Shale
211	243	Sandy shale
243	252	Sand and shells
252	287	Sand
287	331	Sand and gravel
331	348	Shale
348	376	Sand and gravel
376	420	Shale
420	491	Sand
491	526	Shale
526	562	Sandy shale
562	588	Sand
588	595	Shale
595	617	Sand
617	667	Shale
667	756	Sticky shale
756	761	Sand
761	785	Shale
785	833	Sand with streaks shale
833	875	Sand
875	879	Sand, pyrites, lime
879	880	Cap rock
880	888	Sand, pyrites, lime
888	944	Cap rock
944	961	Lime rock
961	991	Lime rock with streaks sulfur
991	1,031	Lime rock
1,031	1,084	Anhydrite
1,084	1,090	Salt

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A WILSON PORTABLE RIG operated by the Lupher Drilling Co., Mt. Pleasant, Mich., in one of the new southeastern Illinois fields, and powered by two 125-horsepower "Caterpillar" Diesel Engines.

General view showing all four "Caterpillar" Diesel Engines on Lupher Drilling Co.'s rig near Xenia, Ill. The performance of these engines decided this company in favor of another rig identical to this one.

Refining Cracked Gasoline From Oil Produced Outside of U. S.

By J. C. MORRELL, C. G. DRYER and Gustav Egloff
Universal Oil Products Co.

In the first half of this article, published on page 101 of the December 30, 1937, issue of The Oil and Gas Journal, the authors outlined the refining of cracked gasolines made from crude oils produced in Russia, Venezuela, Rumania, Iran, Sumatra and Mexico. Here, such data on crudes produced in Iraq, Argentina, Canada, Bahrein Island, Dutch East Indies, Greece and Japan are given.

Iraq

Iraq has two refineries having a combined capacity of 2,500 bbls. a day with no cracking installations. Iraq crudes vary in gasoline content from 12.1 per cent in the Qaiyarah high sulfur crudes with 36 per cent in another type. The octane ratings of the straightrun motor fuel vary from 32 to 45. The crude oil from Kirkuk is somewhat similar to Mid-Continent crude of North America and its treatment is comparable to that of Iran crude. Straightrun gasoline was reformed and the crude residue was cracked to high-octane motor fuel. Practically all of the Iraq crude produced is refined in foreign countries such as France.

The results of refining the cracked gasolines derived from these two stocks is shown in Table 7.

TABLE 7—MOTOR FUELS OBTAINED FROM IRAQ CRUDES

	Cracking stock—Iran crude tops (Baba Gurgur)		Cracking stock—Iran crude residue (Baba Gurgur)		
°A.P.I. gravity, at 60° F.	58 5		19 9		
Per cent total sulfur	0 16		3 26		
Octane Number	32		....		
Treatment of cracked gaso.	Doctor	Acid	Doctor	Acid	Acid
Acid lbs./bbl.	....	6	....	5	14
Acid solution loss, per cent	....	0 8	....	2 7	3 5
Polymerization loss, per cent	....	0 0	....	1 4	2 4
Gravity, °A.P.I.	62 3	61 8	60 2	60 6	60 1
100 cc. A.S.T.M. dist.:					
I.B.P. °F.	93	108	94	106	104
10 per cent	139	146	144	144	151
50	242	236	251	246	250
90	346	339	346	338	339
E.P. °F.	368	368	382	376	380
Octane number (motor)	69	68	67	65	64
Color °Saybolt	18	26	17	26	29
Color stability*	....	22	....	19	25
Per cent sulfur	0 05	0 04	0 31	0 21	0 13
Oxygen bomb stability induction period, min.:					
Original gasoline	45	70	55	60	120
Original gasoline + 0.025 per cent UOP No. 1	310	710	85	225	840
Copper dish gum Mgs./100 cc.:					
Original gasoline	83	7	38	11	8
Original gasoline +0.025 per cent UOP No. 1	3	3	10	5	5

*Equivalent to two hours noon June sunlight.

Argentina

The refineries of Argentina have a daily capacity of 80,000 bbls. of crude and 33,650 bbls. of cracking. In general, the crude oil is of heavy fuel oil type and ranges in gasoline content from about 19 per cent having an octane rating of 30. Reduced crude, crude oil, residue, and cracking still residue were converted into motor fuel at elevated temperatures.

The results of refining the motor fuels to marketable products are shown in Table 8.

TABLE 8—MOTOR FUELS OBTAINED FROM ARGENTINA CRUDES

	Cracking stock—Argentina reduced crude				Argentina crude residue		Argentina cracking still residue	
Properties of cracking stock—								
°A.P.I. gr., at 60° F.	20 4				23 8		11 2	
Total sulfur, per cent	0 17				0 16		0 31	
Treatment of cracked gasoline—	None	Doctor	Liquid phase clay	Vapor phase clay	Doctor	Acid	Doctor	Acid
Acid, lbs./bbl.	....	....	....	....	....	2	....	2
Acid solution loss, per cent	....	....	....	....	....	1 0	....	0 7
Polymerization loss, per cent	....	....	3 0	2 7	....	0 4	....	0 4
Gravity, °A.P.I.	58 9	58 6	59 6	60 0	60 1	61 7	59 1	58 6
100 cc. A.S.T.M. Dist.:								
I.B.P. °F.	101	105	107	103	100	108	104	110
10%	151	157	155	152	142	144	159	166
50	245	248	243	245	243	236	282	273
90	334	335	320	318	342	338	362	354
E.P. °F.	393	391	371	368	402	390	398	392
Octane number (motor)	69	68	68	68	69	68	65	63
Color ° saybolt	—5	—3	+30	26	....	27	....	+30
Color stability*	....	....	22	22	....	23	....	26
Sulfur, per cent	0 04	0 03	0 03	0 03	0 03	0 02	0 08	0 06
Oxygen bomb stability induction period, min.:								
Original gasoline	70	100	190	95	90	160	495	330
Original gasoline + 0.025% UOP No. 1	....	245	775	345	160	575	....	650
Copper dish gum mgs./100 cc.:								
Original gasoline	214	179	6	36	189	2	126	3
Original gasoline + 0.025% UOP No. 1	....	56	2	2	132	1	....	2

*Equivalent to two hours noon June sunlight.

Canada

Canada has a relatively small production which is derived from seven producing fields at Calgary, Petrolia, Oil Springs, Bothwell, Mosa, Fort Norman, and Stony Creek, the crude oils having a motor fuel content ranging from 19 to 90 per cent with sulfur contents varying from 0.11 to 1.05 per cent. There are 35 refineries in Canada with a daily capacity of 170,000 bbls. of crude and cracking of 67,000 bbls. The bulk of the crude oil is shipped into Canada from foreign countries.

Cracking tests were made on Turner Valley 26 gravity topped crude and the gasoline refined by only doctor sweetening and the addition of an inhibitor.

The results of treating are shown in Table 9.

TABLE 9—MOTOR FUELS OBTAINED FROM CANADIAN CRUDES

Properties of cracking stock—	Cracking Stock Canadian resid. from Turner Valley	
°A.P.I. gr., at 60° F.	26 0	
% Total sulfur	0 68	
Treatment of cracked gasoline	None	Doctor
Acid lbs./bbl.	....	....
Acid solution loss, per cent	....	....
Polymerization loss, per cent	....	....
Gravity °A.P.I.	60 5	....
100 cc. A.S.T.M. dist. I.B.P. °F.	100	....
10%	141	....
50	246	....
90	346	....
E.P. °F.	396	....
Octane number (motor)	....	....
Octane number (research)	67	66
Color °Saybolt	14	14
Color stability*	....	....
% Sulfur	0 08	0 07
Oxygen bomb stability induction period, min.:		
Original gasoline	35	55
Original gasoline + 0.025% UOP No. 1	....	260
Copper dish gum./100 cc.:		
Original gasoline	225	280
Original gasoline + 0.025% UOP No. 1	....	6

*Equivalent to two hours noon June sunlight.

TABLE 10—MOTOR FUELS OBTAINED FROM BAHREIN ISLAND CRUDE

	Cracking stock—Naphtha			Reduced crude		
Properties of cracking stock—						
°A.P.I. gr., at 60° F.	60 6			17 3		
Per cent total sulfur	0 02			3 36		
Octane number	40			....		
Treatment of cracked gasoline	Doctor	Acid	Liquid phase clay	Doctor	Acid at 70°	Acid at 70°
Acid, lbs./bbl.	....	2	....	....	2	5
Acid solution loss, per cent	....	0 8	....	....	2 1	3 7
Polymerization loss, per cent	....	0 6	1 2	....	1 5	2 9
Gravity, °A.P.I.	57 5	56 6	56 6	60 3	60 2	60 0
100 cc. A.S.T.M. dist.:						
I.B.P. °F.	106	113	112	103	124	122
10 per cent	140	156	152	144	146	150
50	238	240	237	247	248	252
90	344	337	336	342	340	343
E.P. °F.	392	390	388	387	386	392
Octane number (motor)	75	74	74	67	67	66
Color °Saybolt	....	30+	30+	....	30+	30+
Color stability*	....	27	25	....	....	....
Per cent sulfur	0 03	0 01	0 02	0 27	0 18	0 14
Oxygen bomb stability induction period, min.:						
Original gasoline	....	120	110	....	300	720
Original gasoline + 0.025 per cent UOP No. 1	....	1110	820	....	620	1440
Copper dish gum mgs./100 cc.:						
Original gasoline	6	4	4	71	3	24
Original gasoline + 0.025 per cent UOP No. 1	1	1	2	14	2	4

*Equivalent to two hours noon June sunlight.

Bahrein Island

The Bahrein Island crude oil production is of a mixed base character, containing about 30 per cent of motor fuel of 42 octane rating. A refinery with a daily crude oil charging capacity of 25,000 bbls. a

day, of which 10,500 bbls. a day represent the cracking of topped crude and 6,000 bbls. a day reformation of the straightrun gasoline is being built.

The cracked motor fuel from naphtha and reduced crude are refined, the results of which are shown in Table 10.

Dutch East Indies

The crude oil from Borneo, Tarakan field, is a heavy oil of about 18 A.P.I. gravity. It contains little gasoline, about 0.8 per cent of 428° F. endpoint. The sulfur content is 0.3 per cent and 0.6 per cent insoluble asphalt. Tarakan crudes are used for gasoline, fuel oil, diesel oil, and lubricating oils. There is one refinery in Borneo having a daily capacity of 35,000 bbls. of crude and a cracking capacity of 7,400 bbls.

A seria solar oil was subjected to cracking conditions producing a motor fuel which was refined as shown in the data of Table 11.

Greece

The oil production of Greece is quite small and of heavy fuel oil quality. Cracking tests were made with the oil produced on the Isle of Xanthe with yields of motor fuel of 34.4 per cent when operating to a residuum type or 54.5 per cent when coking operation was used.

Gasoline produced from the cracking operation was split plumbite and treated with 10 pounds of sulfuric acid, with the results shown in Table 12.

Sakhalin Island

The oil fields of Sakhalin Island are located along the northeastern coast of Japan. The quality of the crudes varies from 17° Be. to 40° Be. The gasoline content ranges from no gasoline in the Chakrui crude to about 30 per cent gasoline in the oil from the deep wells at Nutovo field. The production for Sakhalin Island during 1934 was 2,881,000 bbls.

Refineries for the crude oil are located in Russia at Vladivostok and Khabaroosk, and for the Japanese crude production from the island, they are located in the western coast of Japan northwest of Tokyo.

The Oha crude oil of 20 A.P.I. gravity was subjected to cracking conditions and the motor fuel produced refined with sulfuric acid to a marketable product as shown in Table 13.

TABLE 11—MOTOR FUELS OBTAINED FROM DUTCH EAST INDIES CRUDE

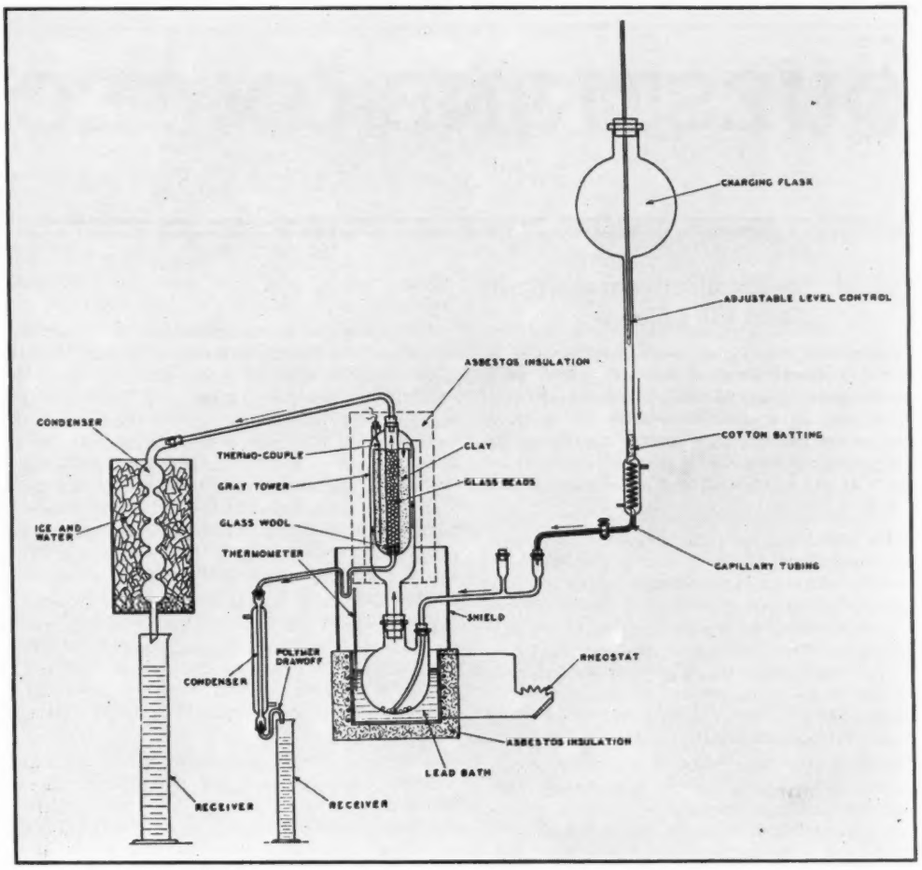
Properties of cracking stock—	Cracking Stock Dutch East Indies Seria Solar oil	
°A.P.I. gr., at 60° F.	23 7	
% Total sulfur	0 29	
Treatment of cracked gasoline	Doctor	Acid
Acid lbs./bbl.	...	2
Acid solution loss, per cent	...	...
Polymerization loss, per cent	...	1.5
Gravity °A.P.I.	51 3	49 9
100 cc. A.S.T.M. dist. I.B.P. °F.	98	114
10%	157	163
50	260	264
90	341	340
E.P. °F.	389	391
Octane number (motor)	79	78
Color °Saybolt	...	23
Color stability*	...	20
% Sulfur	0 05	0 03
Oxygen bomb stability induction period, min.:		
Original gasoline	50	85
Original gasoline + 0.025% UOP No. 1	85	190
Copper dish gum induction period, min.:		
Original gasoline	164	29
Original gasoline + 0.025% UOP No. 1	62	10

*Equivalent to two hours noon June sunlight.

TABLE 12—MOTOR FUELS OBTAINED FROM CRUDES PRODUCED IN GREECE

Properties of cracking stock—	Cracking Stock Crude Oil Isle of Xanthe Greece	
°A.P.I. grav. at 60° F.	9 3	
% Total sulfur	5 48	
Treatment of cracked gasoline	Doctor	Split plumbite acid
Acid lbs./bbl.	...	10
Acid solution loss, per cent	...	3 0
Polymerization loss, per cent	...	2 1
Gravity, °A.P.I.	54 9	55 2
100 cc. A.S.T.M. dist. I.B.P., °F.	105	110
10 per cent	157	167
50	286	278
90	377	364
E.P., °F.	388	386
Octane number (motor)	69	68
Octane number (research)	...	...
Color °Saybolt	...	22
Color stability*	...	20
% Sulfur	0 64	0 28
Oxygen bomb stability induction period, min.:		
Original gasoline	60	35
Original gasoline + 0.025% UOP No. 1	80	230
Copper dish gum mgs. 100 cc.:		
Original gasoline	216	6
Original gasoline + 0.025% UOP No. 1	69	3

*Equivalent to two hours noon June sunlight.



Laboratory set-up for testing earth efficiencies

TABLE 13—MOTOR FUELS OBTAINED FROM JAPANESE CRUDES

Properties of cracking stock—	Cracking Stock Oha Crude island of Sakhalin-Japan	
°A.P.I. gr. at 60° F.	20 1	
% Total sulfur	0 41	
Treatment of cracked gasoline	Doctor	Acid
Acid lbs./bbl.	...	2
Acid solution loss, per cent	...	...
Polymerization loss, per cent	...	...
Gravity, °A.P.I.	51 4	51 3
100 cc. A.S.T.M. dist. I.B.P. °F.	93	110
10 per cent	136	152
50	300	293
90	392	381
E.P. °F.	410	404
Octane number (motor)	...	...
Octane number (research)	82	79
Color °Saybolt	...	16
Color stability*	...	15
% Sulfur	0 18	0 11
Oxygen bomb stability induction period, min.:		
Original gasoline	...	170
Original gasoline + 0.025% UOP No. 1	...	230
Copper dish gum./100 cc.:		
Original gasoline	305	203
Original gasoline + 0.025% UOP No. 1	...	196

*Equivalent to two hours noon June sunlight.

California Tax Income Gains

Income from California's gasoline tax continued to gain during November, according to the state board of equalization report. The tax, assessed against the sale of 140,281,207 gallons of gasoline, amounted to $4,208,436 for the month of November, a gain of 1.90 per cent over the same month of the previous year and slightly under the tax of $4,308,581 reported for October, 1937.

Oil companies reporting sales over 20,000,000 gallons for the month were listed as follows, the difference between the total and taxable sales being due to resale of gasoline previously taxed or exempt sales to the federal government or in interstate commerce the report stated.

	Gallons actually sold	Net taxable gallonage
General Pet. Corp. of Calif.	24,292,926	11,498,210
Richfield Oil Corp.	23,089,535	13,408,550
Shell Oil Co.	32,599,128	16,274,170
Standard Oil Co. of California	58,439,701	24,557,283
Tide Water Associated Oil Co.	20,459,410	10,893,433
Union Oil Co. of California	26,201,832	13,331,954

Honor Late Dr. Stieglitz

The memory of Dr. Julius Stieglitz, distinguished chemist and teacher, who died early in 1937, is to be perpetuated by a lectureship foundation to be established in Chicago.

The project is in charge of two committees, one headed by Dr. Paul N. Leech of the American Medical Association, representing the University of Chicago Alumni, the other by Dr. Gustav Egloff of Universal Oil Products Co., representing the Chicago section of the American Chemical Society. They have notified the chemical profession of the project. Contributions to finance it are being invited, especially from former students and other friends of Doctor Stieglitz, and from companies who employ chemists. The lectureship is to be endowed in perpetuity.

It is planned to give at least one lecture a year, alternating them between the Chicago section of the American Chemical Society and the University of Chicago.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Methods for Identification of Oils in Diesel Fuel Blends

Is it possible by any known method of analysis to discover if a blended diesel oil has been made from a cracked residual heavy oil with a lighter oil? The question is becoming a matter of considerable importance owing to the fact that solid injection engines are becoming more numerous. As far as we are concerned our idea is to use distillate oil and not a blended oil.—W. S. B.

The identification of the components of a mixture of petroleum liquids is usually quite difficult, for there may be several characteristics to interpret. Boiling points, pourpoint, sulfur, carbon residue and viscosity are frequently very helpful when applied to lubricating oils and fuel oils. The very wide range in the properties of the oils used as diesel fuels present an additional difficulty when an attempt is made to determine the nature of a possible blend.

When a very heavy fuel oil is blended with a distillate the resulting mixture must have a dark color. The distillates used for engine fuels usually have a very low carbon residue, approximately 0.01 per cent, so any marked increase in this, such as 0.10 per cent or more, would suggest the presence of a heavy residual oil. Gravity does not help much except when large quantities of heavy oil are used, but may be important when translated together with viscosity at 100° F. The cetene numbers of the distillates are usually higher than the heavy fuel oils. Any marked reduction in A.P.I. gravity naturally suggests the presence of heavy oil. Probably the most important indication of a distillate and heavy oil is the percentage distilled at 700° F. The pure distillates will usually give very close to 100 per cent off, but the heavy oils leave a residue that may be so much as 30 to 35 per cent at 700° F.

The difference between a straightrun and cracked residual is also a matter to be determined from the same properties that have been mentioned. Experience has much to do with a problem of this sort. The cracked product often has a distinctive odor which is easily recognized by one familiar with the stocks.

Decolorization of Oils With Contact Clays

Will you please give me any available information on . . . . clay used for refining oils?—J. L. E.

Decolorization of petroleum liquids, especially gasoline and lubricating oils, has always been difficult and time-consuming. There were two methods long known, acid treatment followed by neutralization and filtration by percolation through fuller's earth, or a combination of the two. A marked improvement came with the introduction of contact filtration, which reduced the time, and the product was better in most instances, and obtained at reduced cost. The essential features of contact filtering include: mixing a finely pulverized clay with the oil, then heating the mixture to a selected temperature, which may vary from about 70° F. to 500° F., and then separating the clay from the oil by means of a filter press. The oil passes to the mixing tank after acid treatment without neutralization.

There are two types of clay used, the natural raw clays and treated clays. The clay mentioned is a treated clay marketed under a trade name. The treated clays are of two types: (1) The raw clay is pulverized, digested in a weak acid solution, washed, dried and reground; (2) the clay is introduced into the oil without having been dried. After washing, a pulp or mud is obtained by settling. This pulp is mixed with the oil and the mixture passed through a pipe still heater to expel water and bring the oil to the proper temperature for filtering through a pressure type filter.

Efficiency of filtering clays is stated in terms of relative decolorizing power, determined by test. A unit may be assigned to one clay and the efficiency ratio determined by comparison. This test method is from the description by A. R. Moorman. A charge of 200 cc. of oil is placed in a 1,000-1,500-cc. beaker.

Add clay, weighed, to the cold oil and heat as rapidly as possible, keeping the mixture thoroughly mixed. Use a mechanical agitator. Hold the oil at the maximum temperature for 10-15 minutes, or until the foam caused by moisture in the clay has disappeared. Filter out the clay as quickly as possible.

When above 300° F is to be used, heat the oil-clay mixture in a beaker to about 260° F. until most of the foam is off. Transfer to a 1½-liter flask, round bottom, short neck, fitted with a steam line, thermometer extending to near the bottom and a vapor outlet. Shake the flask gently to keep the clay from settling while quickly heating to the selected temperature. Admit steam at about 280° F. and steam down from maximum temperature to 300° F., then cool, without steam, to 250° F. and filter.

The efficiency ratio is calculated. If 20 grams of earth are required per 100 cc. of oil to give a desired color, then 4 grams of another clay gives the same color, the efficiency of the latter is 5.

Reference: A. R. Moorman, The Oil and Gas Journal, May 14, 1925, page 100.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Dichloroethyl Ether

(Chlorex)

Use—Oil extraction process, lubricating oil. Solvent for wax.

Form—Colorless liquid.

Formula—$CH_2Cl.\ CH_2O\ CH_2.\ CH_2Cl$.

Specific gravity—1.217.

Boiling point, °F.—353.

Solubility—Organic solvents and oil; insoluble in water.

LIMITATIONS

Acidity, max. %, as HCl	0.01
Boiling range within °F.	329-360
Specific gravity	1.217 to 1.223@68° F.
Corrosive on iron	Negative

Tank Tables for Gallonage of Flat End Horizontal Tanks

Is there any association or department of the government which publishes tank tables showing the contents by inches for bulk station and filling station tanks?—R. N.

Horizontal storage tanks are manufactured with dished heads, flat heads with both heads out, or flat heads one head in and the other out, in such a variety of sizes that a set of tank tables to cover all conditions would make an extensive volume. Each individual tank is strapped by the maker and usually checked by an expert.

E. L. Peffer of the National Bureau of Standards, Division of Weights and Measures has prepared a set of gallonage tables for horizontal tanks with flat ends. The volume at any depth may be determined from an inside measurement and a reference to the table.

The table shows the volume, in gallons, of a section 1 inch in length, for tanks of various diameters filled to various depths. The total volume of liquid in a tank filled to a given depth can be obtained by multiplying the tabulated volume per inch in length, for a given diameter of tank and depth of liquid, by the length of the tank, in inches.

Reference: National Bureau of Standards, Circular C-416. Obtainable from Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents a copy.

Quality of Regular Grade Winter Gasoline in United States

Could you furnish us with representative tests showing the quality of regular grade gasoline which is sold during the winter season?—F. G.

The U. S. Bureau of Mines has published for the past three seasons data compiled by E. C. Lane, showing the characteristics of motor gasoline marketed in the United States during the winter months. The results of the 1936-37 winter months survey are shown in the table.

MOTOR GASOLINE SURVEY

WINTER 1936-37—REGULAR GRADE

Test—	Min.	Range of 90%	Max.
Degrees A.P.I.	49.2	58.3 - 65.9	68.2
Sulfur content, %	0.007	0.028- 0.14	0.35
Reid vapor pressure, lb.	7.3	8.4 - 12.4	12.8
Copper-strip test	..	negative	..
A.S.T.M. octane number	64	68.9 - 71.4	74
Initial boiling point	67	83 - 94	107
10% recovered	107	115 -144	160
20% recovered	130	136 -174	192
30% recovered	145	160 -202	221
50% recovered	192	235 -256	273
70% recovered	225	260 -302	323
90% recovered	287	335 -370	390
Endpoint	342	382 -415	443
Distillation loss	0.8	1.0 - 3.4	5.0

Data were contributed from the following companies: Continental Oil Co., Empire Oil & Refining Co., Gulf Refining Co., Humble Oil & Refining Co., Phillips Petroleum Co., Shell Petroleum Corp., Sinclair Refining Co., Standard Oil Development Co. (N.J.), Standard Oil Co. (Indiana), Tide Water Associated Oil Co., the Atlantic Refining Co., the Pure Oil Co., and the Pacific Coast Technical Group representing the major petroleum companies marketing in the Pacific Coast area.

Reference: E. C. Lane, Cooperative Fuel Research Motor Gasoline Survey, Winter 1936-37. U. S. Bureau Mines, Rpt. Investigations No. 3348, 1937.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Relative Value of Leases

I would like to know about my land as to oil possibilities. It is located in Hughes County, Oklahoma, and consists of one 80- and one 40-acre tract located across a road from one another. The 40-acre tract is north of the 80-acre piece, and I am puzzled to know why I was able to lease the 80-acre tract but could not get anyone to take a lease on the 40-acre piece. A well drilled about 2 or 3 miles north of my property several years ago found gas at several depths but was finally abandoned. There is a well drilling several miles to the north of my property and another several miles due east. If both of these wells are producers would it effect my land to any great extent as to royalty values? As nearly all the land around my farms is leased I would like to get an ownership map and a structure or geological map of that part of the county. Also there is a third well drilling some miles south of my property and if it comes in a good producer in the Wilcox what effect would it have on my land? I understand it has a very good showing in the Cromwell sand already.—E. T.

It is difficult to answer your letter about the two pieces of land because we do not have sufficient information at hand to permit us to pass judgment.

However, it can be said in general that in wildcat territory such as your property is located in it is not customary to lease blocks of land in units of less than 80 acres. In this instance if the lessee had taken on the 40 acres in addition to the 80 acres he would have been required to pay rental upon this extra piece of land.

In checkerboarding acreage in wildcat territory the land department considers it has secured ample protection under circumstances such as you relate if it has secured the lease upon the 80-acre piece. Others are not interested because the 40 acres is not large enough for checkerboarding protection unless the play trends toward this piece of land. If it does you will have no trouble in leasing it.

None of the wells you mention have proven anything about the land you own unless the gas well to the northwest might be considered unfavorable.

History of Natural and Artificial Gas

I am in need of some information and would appreciate it very much if you will supply same.

When was natural gas first used?

When was artificial gas first used?

In what state was natural gas first used?

When was the first internal combustion engine used?

What is the approximate number of natural gas consumers in the United States?

What is the number of miles of natural gas pipe lines in the United States?—R. E. McG.

Natural gas was discovered by the Chinese in very early times and some wells as deep as 2,000 feet were drilled and the gas delivered through bamboo pipes for evaporating salt brine and for domestic purposes.

The Magi of Asia worshipped the eternal fires blazing from fissures in the ground along the Caspian Sea centuries before the birth of Christ. Romans ruled this area in A.D. 624 and destroyed the fire worshippers temple.

In America, in 1775, George Washington dedicated to his country a tract of land in West Virginia containing a burning spring issuing from a crevice in the earth. In 1815 gas was produced from a salt well at Charleston, W. Va. In 1821, at Fredonia, N. Y., gas arising from a spring caught fire from a lantern used by a woman going for water after dark. The first natural gas well in this country was completed near that spring during that year. It was 27 feet deep and supplied 30 burners.

In 1739 Dr. John Clayton presented a paper before the Royal Society in England describing the production of coal-gas from coal distilled in a heated vessel. It was not until 1792 that the practical value of coal gas as an illuminant was demonstrated by William Murdock, a Scotchman, who constructed apparatus by which he illuminated his home and office in Redruth, Cornwall, England. His experiments were carried further in 1798 when he installed equipment in the Soho foundry. In 1805 Mr. Murdock introduced gas in the cotton mills in Manchester, England.

In the United States the use of illuminating gas was agitated as early as 1812 and it was successfully introduced in Baltimore in 1821, in Boston in 1822, and in New York gradually between 1823 and 1827.

From an article in the Penny Magazine, a London weekly, on August 26, 1837, it seems that the village of Fredonia in the western part of New York state used natural gas in a commercial way in October, 1836, which will probably date the first use of natural gas in any state in this country.

In 1678 the Abbe d'Hautefeuille invented an engine for employing the explosive power of gunpowder to drive a piston working in a cylinder. This was the prototype of the modern gas engine. In 1680 the eminent Dutch physicist, Christian Huygens, devised a similar gunpowder engine. The next development of the internal combustion engine was in 1791 when John Barber, an Englishman, specified in a patent the use of a mixture of hydrocarbon gas and air and its explosion in a vessel, which he called an exploder. Some years later John Street, also an Englishman, took out a patent for the production of an explosive vapor by means of a liquid and air, ignited by a flame, in a suitable cylinder so as to drive machinery.

In 1860, Lenoir, a Frenchman, invented the first practical gas-engine. In 1867, two Germans, Otto and Langen, patented an engine in which the explosion of gases in the cylinder served only to obtain a partial vacuum under the piston which was, therefore, forced down by the atmospheric pressure above it. In 1878, Doctor Otto brought out his gas-engine which was the real start of development of the modern type gas engine.

For information as to the approximate number of gas users in this country you are referred to the American Gas Association, 420 Lexington Avenue, New York.

In the pipe line edition of September 16, 1937, The Oil and Gas Journal estimates the total mileage of natural gas lines in this country as 75,000 miles. This figure covers lines between 2- to 24-inch diameter serving as trunk lines and does not include either gathering or distributing systems.

Estimating Gas Contents In Cylinder

Can you give me answers to the following:

1. How much natural gas would be contained in a tank of 10 cubic feet capacity if gas was pumped into it until pressure registered 150 pounds per square inch?

2. If an ordinary water-cooled compressor was used for this purpose, what would be the safe upper limit of the temperature recorded by the water in the cooling system?—R. A. McC.

To estimate the volume of natural gas in a cylinder compressed to any pressure, add the atmospheric pressure, usually taken as 14.4 pounds per square inch for sea level and normal altitudes, to the desired pressure in the tank and divide by 14.4 and multiply by the cubic content of the tank.

For your particular problem this may be solved as follows:

$$\frac{150 + 14.4}{14.4} \times 10 = 114 \text{ cu. ft.}$$

If great accuracy is desired in making the calculation for gas contained in the cylinder it will be necessary to make correction for temperature of gas in cylinder. For complete information and tables for natural gas calculations you are referred to "Natural Gas Handbook" published by Metric Metal Works of the American Meter Co., Inc., Erie, Pa.

The maximum cooling water temperature that should be used on the gas compressor end of a compressor should range between 160 and 180° F. This has no reference to the power end of this compressor.

Eastern Kentucky Possibilities

I am much interested in an article in the October 28 issue on oil structures in western Kentucky. Do you know of any geological work in Leslie County, Kentucky? I have heard mention of "a fault dyke and structure gap" and "synclines" and "anticlines" and other geologic terms and would like to know where I can obtain a map of Kentucky showing geologic features.—Mrs. E. T. C.

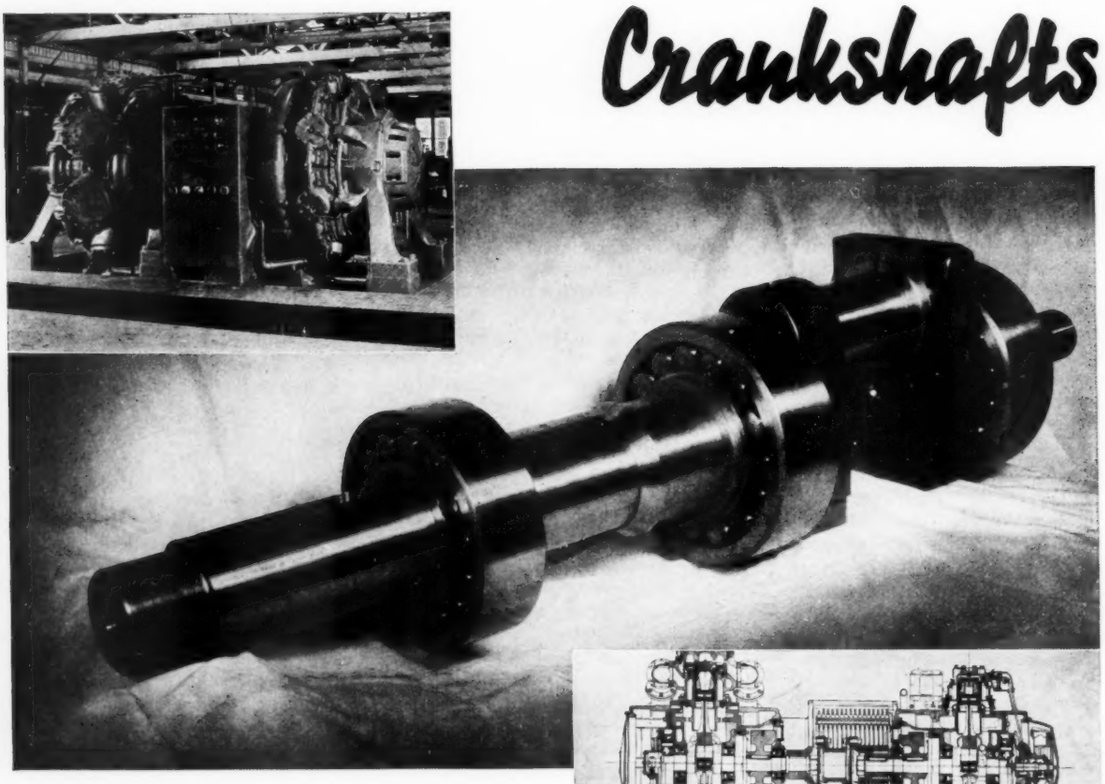
I know of no activities in Leslie County, but you had best not take my word for it but read your Oil and Gas Journal carefully.

You will find all the information we have about eastern Kentucky oil activity in the Journal each week in the field reports under the Central West division. There is a subhead in this report and it covers western and eastern Kentucky separately so if you follow those reports closely you will have all the information we have at any time.

You might secure a geological map of eastern Kentucky from the State Geologist, Lexington, Ky., but it does not deal with gas and oil specifically and to use it would require some general knowledge of geology.

You might be interested in a good book on practical geology and if so we recommend Dorsey Hager's "Practical Oil Geology." Our book department handles this book and it costs $3 per copy. In it you would find a simple explanation of anticlines and synclines and other geologic terms which would help you to understand the information we publish in the Journal from time to time.

COMPACTNESS is made easy with SKF's on Crankshafts



DRESSER designed this combination radial engine and compressor unit for *compactness.* That's why they selected SKF Bearings for the main crankshaft locations.

In SKF Spherical Roller Bearings, they obtain not only a *compact* bearing, but one that is *self-contained,* requiring no adjustment . . . that is *self-aligning* to assure full bearing capacity and long life. When *you* want the right bearing in the right place, come to SKF.

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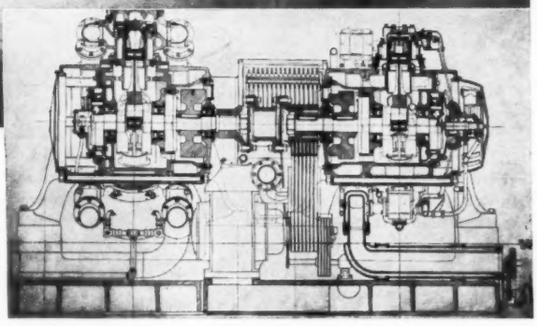


● *Two-cycle gas engine and compressor unit built by S. R. Dresser Mfg. Co.*

4003

FIELD OPERATIONS

Summarizing the Week's Developments

A wildcat in section 18-18-2e, Payne County, flowed 935 bbls. of oil in two hours to open a new Wilcox sand pool, the first strike of the year in Oklahoma. A shallow gas horizon was uncovered in section 28-18-4w, Lovell area, Logan County, after it had failed to find pay in deeper horizons. The first wildcat of the year was started in section 36-10-1e, Cleveland County.

KANSAS

Extension producers were near completion in section 5-18-25w, Aldrich area, Ness County; section 30-31-11w, Whelan pool, Barber County, and section 18-28-11w, Cairo gas sector, Pratt County. A 7,327-bbl. well was completed in the Stumps pool, Ellsworth County.

TEXAS

Two new pools were in sight in Jefferson County, Texas Gulf Coast, and two more coastal tests look very promising. A deep producing horizon was found in the old West Columbia field in Brazoria County. Two tests in Southwest Texas, one in Nueces County and the other in Victoria County, have uncovered new production. The K.M.A. deep sand pool in Wichita County, North Texas, continues to be the most talked of discovery. Six new wells brought in 4,210 bbls. initial production. Fifty-nine wells are drilling to the deep pay. A new pool was opened south of the Pecos River in Pecos County, West Texas.

TEX-LA-ARK

High water slowed down the North Louisiana-Arkansas fields. The newly named Jefferson pool, formerly regarded as part of the Texas Rodessa field, was linked to the Lodi portion of the Rodessa field by a well which started at 500 bbls. a day. A Harrison County, Texas, test was blowing wild. In the Lisbon field in Louisiana two wells flowing 48 bbls. and 55 bbls. per hour respectively without having been acidized, are the largest natural producers the field has had.

NEW MEXICO

An extension area 1 mile west of South Eunice pool, Lea County, was opened by a 3,600-bbl. wildcat well in section 18-22-36. A 3,240-bbl. naturally flowing well was completed in section 6-22-36, South Eunice pool.

ILLINOIS

Carter Oil Co. appears to have opened a Benoist sand pool in section 15-8n-3e, Fayette County, Illinois. The well pumped 57 bbls. of oil in six hours from sand topped at 1,486 feet. Same company's deep test in section 12-8n-3e, Fayette County, will be plugged back to the Benoist sand.

ROCKY MOUNTAIN AREA

A 480-bbl. well was brought in from the Dakota sand on the Quealy dome in Albany County, Wyoming, and a 675-bbl. well was completed in the Minnelusa horizon in the Lance Creek field.

CALIFORNIA

Five wells in the Long Beach harbor portion of the Wilmington field were on top of the pay and should be completed this week. The Greeley field in Kern County was cut off on the east by salt water in a test in section 21-29-26. The Rio Bravo, Kern County, discovery well has flowed about 2,585 bbls. every day since it came in.

Completions in All Fields

(Week Ending January 1, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa. and W. Va.	66	24	8	98	98	55
Ohio	5	6	6	17	17	33
Indiana	0	0	0	0	0	3
Kentucky	1	1	3	5	5	5
Illinois	8	0	5	13	13	0
Michigan	8	0	4	12	12	15
Kansas	20	0	6	26	26	25
Oklahoma	14	3	12	29	29	40
Texas:						
North Central Texas	23	0	11	34	34	61
West Texas	36	0	6	42	42	29
Texas Panhandle	7	2	2	11	11	11
East Texas	41	0	1	42	42	21
East Central Texas	5	0	0	5	5	4
East Texas Border	6	0	0	6	6	8
Gulf Coast Texas	17	0	2	19	19	15
Southwest Texas	19	5	7	31	31	45
Total Texas	154	7	29	190	190	194
North Louisiana	8	0	0	8	8	2
Gulf Coast Louisiana	6	0	4	10	10	16
Total Louisiana	14	0	4	18	18	18
Arkansas	4	0	0	4	4	0
Montana	1	0	1	2	2	3
Wyoming	3	1	2	6	6	2
Colorado	0	0	0	0	0	0
New Mexico	9	0	0	9	9	12
Utah	0	0	0	0	0	0
California	21	1	6	28	28	22
Total United States	328	43	86	457	*457	427
Total previous week	332	48	108	488		
Difference	4	5	22	31		

*Fiscal year 1938 began December 24, 1937.

Outstanding Fields—Highlights

(Week Ending January 1, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Hastings	3	7	3	1,740	431	18,967
McCampbell	4	9	1	135	93	4,287
Saxet	5	7	2	154	596	45,426
Benavides	4	13	4	712	125	6,139
East Texas	39	109	42	2,053	24,267	491,200
Talco	4	18	5	1,947	590	26,950
K.M.A.	37	59	6	4,210	89	5,100
Ector County	15	48	12	11,469	798	27,100
Winkler County	5	8	8	3,908	1,536	41,050
OKLAHOMA						
Fitts	1	13	0	0	948	73,300
Billings deep sand	1	4	0	0	7,500	7,500
KANSAS						
Barton County	7	34	5	3,958	305	10,155
Ellis County	4	20	1	488	262	10,180
Rice County	7	24	3	3,565	1,045	26,745
Russell County	8	42	3	3,300	974	29,815
NEW MEXICO						
Lea County	11	109	8	4,225	8	99,520
LA-ARK-TEX						
Rodessa, Ark.	3	8	2	450	53	10,040
Rodessa, La.	3	11	2	500	433	43,125
Rodessa, Tex.	2	8	1	500	383	18,920
Lisbon, La.	4	11	3	2,710	156	9,125
Jennings, La.	2	11	3	1,215	99	14,839
MICHIGAN						
Buckeye	9	46	4	1,038	324	22,641
ILLINOIS						
Central Illinois	16	116	8	2,826	250	23,017
CALIFORNIA						
Wilmington	15	30	8	2,667	337	61,450

Eastern Field Report

By STAFF CORRESPONDENT

14,000,000-FOOT GASSER IS BEST NEW WELL OF WEEK

PITTSBURGH, Pa., Jan. 3. — Operations in the lower eastern fields were generally retarded by the holiday shutdown and little new work was started. Thirty-three wells were completed, of which 7 were dry, 21 gas wells, and 5 producers with an initial daily production of 80 bbls.

In Jackson County, West Virginia, one deep test is nearing the Oriskany sand. In Ravenswood district, W. H. Petry topped Corniferous lime at 4,600 feet on the D. O. Curry farm and is drilling 80 feet in that formation. This test is 15,800 feet north, 52 degrees west of Sandyville and will be the third recent test in the county. The two previous tests on the Elizabeth Ward Perkins farm were failures with salt water in the Oriskany.

SOUTHEAST OHIO

Seven operations were completed in Southeast Ohio, of which three were dry. In Licking County the Park National Bank No. 10 of Newark completed No. 3 Artie M. and George A. Eshelman, Lot 2, Newton Township, in the Berea sand at 713 feet, a 1½-bbl. pumper.

In Lorain County, William Dempsey drilled a dry hole on the A. E. Alexander farm, section 75, Eaton Township, through the Clinton sand to 2,650 feet.

In Morgan County, Portage Producers, Inc., drilled a second test on the Howard White farm, section 17, Deerfield Township, through the Clinton sand to 4,270 feet, and it was dry.

In Muskingum County, Wehrle Co. drilled a dry hole on the Frederick Northup farm, section 6, Jackson Township, through Clinton sand to 3,215 feet.

In Perry County the Preston Oil Co. completed No. 1,659 Sunday Creek Coal Co. tract, section 36, Coal Township, in Clinton sand to 3,660 feet. There was a good showing of oil and gas and it will not be shot until a later date. In section 30, Monroe Township, the Kachelmacher Estate completed a second test on the E. P. Davis farm in the Clinton sand at 3,640 feet. It has a showing for a 20-bbl. producer and also has not been shot. In the NE quarter of section 17, Clayton Township, Dittoe and others drilled a test on the Beachum heirs farm 15 feet in the Clinton sand with a showing of 500,000 feet of gas a day. Drilling was stopped when the first oil showing was struck.

SOUTHWEST PENNSYLVANIA

In Center Township, Greene County, Pennsylvania, Charles Mong and others completed No. 2 Jesse L. Wetz (Weir) farm at 3,250 feet. Nineveh Thirty Foot sand was topped at 3,203 feet with oil and gas showing at 3,208-3,212 feet. When the second pay was struck, the hole filled up with oil and it made a flow of 55 bbls.

In Wayne Township, Greene County, the Manufacturers Light & Heat Co. completed No. 3,557 Haddie Johnson Ross at 2,170 feet, the Big Injun sand, as a gas well gauging 475,000 feet a day.

In Washington County the Citizens Water Co. test on the J. T. Simpson farm in Smith Township was finished in the Thirty Foot sand at 2,084 feet as a gas well gauging 40,000 feet a day. In Cross Creek Township, Milliken, Pethtel and others test on the W. C. Campbell farm, with Salt sand at 1,405 feet, is a gas well gauging 38,000 feet a day.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is drilling at 2,477 feet on the P. W. Reynolds test with the Gantz sand at 2,420-46 feet and 53,000 feet of gas at 2,444 feet. In South Franklin Township the South Penn Oil Co. is down 1,580 feet in Piedmont Coal Co. No. 3. In Mount Pleasant Township the McGuigan Oil & Gas Co. is drilling at 2,340 feet in W. W. McCarroll test.

In Peters Township, R. M. Duddin and others are drilling at 2,360 feet J. E. Johnson No. 2 and made a location for a test on the Margaret Boone farm. In East Finley Township, Parkinson, Plants and others reached 2,630 feet and shut down in the test on the L. A. Phillips farm with the Fifty Foot sand at 2,508 feet and 100,000 feet of gas at 2,513 feet.

Greene County

In Wayne Township, Greene County, the Equitable Gas Co. is drilling at 2,393 feet in No. 4 Sanford C. Brock. In Center Township this company is deepening No. 1 D. M. Thorp and had reached 2,425 feet.

In Richhill Township, Frye & Fox were drilling on the Hanah Lohr farm at 2,500 feet. Burleigh Wright was down 2,953 feet on the Rush farm with the Fifty Foot sand at 2,813-41 feet and 360,000 feet of gas at 2,839 feet. O. I. Dille and others have a rig up on the Jacob Livingood farm. Natural Gas Co. of West Virginia was drilling on the D. G. Rush farm at 550 feet.

In Dunkard Township, Anna L. Garard is down 2,125 feet on the N. Minor farm. In Washington Township, Charles Mong and others are drilling at 2,275 feet in No. 2 Jacob Johns. I Wayne Township, Eddy & Johnson are underreaming at 1,740 feet in No. 2 E. W. Maple.

Deep Tests

In Washington County the deep test of Norwood P. Johnston and others on the James McBurney farm in Mount Pleasant Township is drilling at 6,751 feet, or 56 feet in the Oriskany sand, which continues as a clean sand getting coarser but still maintaining an unusual hardness. After an overnight shutdown there was less than 2 bailers of water from the 6,731-foot level in the hole.

In Fayette County the Potter Development Co., William E. Snee and others are drilling at 5,390 feet in No. 2 Summit Hotel on Chestnut Ridge in South Union Township. The North Union test on the Louisa Vardell farm remains shut down at 900 feet.

In Allegheny County the South Penn Oil Co. and others set a whipstock above the lost tools in the test on the Christian Z. Schove farm in Hampton Township and are drilling by.

WEST VIRGINIA

Two small producers were completed in West Virginia. In Ritchie County the A. E. Dye heirs completed a test on their own property in Clay district at 1,748 feet, Keener sand, and it is good for 2 bbls. a day. In Grant district, R. C. Jackson completed a test on the S. P. Tanzy and Ruth Mullenaux farm at 2,335 feet through the Berea sand. It is good for one-half barrel a day in the Squaw sand.

Gas Wells

In Boone County the Owens-Illinois Glass Co. completed No. 24 Allen & Pryor lease in Scott district at 2,299 feet as a gas well. The Big lime was at 1,559-1,782 feet; with gas at 1,623 feet gauging 33,600 feet a day and Berea gas gauging 149,000 feet a day at 2,255-72 feet.

In Braxton County, Pittsburgh & West Virginia Gas Co. completed No. 7,628 G. B. Howell farm at 2,265 feet with a flow, after shot, of 885,000 feet a day. Same company's No. 7,636 Sarah McCumbers farm was completed at 1,740 feet with a gauge of 300,000 feet a day. No. 7,735 Hall & Myers farm was bottomed in Slate at 1,972 feet and gauges 77,000 feet a day. All these are in Birch district.

In Calhoun County, Godfrey L. Cabot, Inc., completed a test on the Jacob Deem farm in Center district in the Injun sand at 1,965 feet as a gas well gauging 98,000 feet a day. In Lee district, F. F. McIntosh test on the George L. Lynch farm was completed at 1,858 feet, in Injun sand, and it gauges 23,520 feet before shot.

In Lincoln County, United Fuel Gas Co. deepened No. 2,046 on the Lincoln Land Association in Sheridan district from 1,420 feet to 1,462 feet. It gauged 67,000 feet a day 48 hours after shot.

In Pleasants County, Cooper Oil Co. test on the Ambler Smith farm in Washington district was drilled through the Salt sand to 1,200 feet and was dry.

In Putnam County, W. H. Kirtley completed a test on the W. E. Billups farm in Teays Valley district at 2,111 feet as a gas well gauging 260,000 feet a day.

It Ritchie County, W. H. Mossor completed a test on the Hosea Prather farm in Union district in the Salt sand at 1,465 feet and it gauged 309,000 feet a day. In Clay district the Carnegie Natural Gas Co. deepened the No. 2 Mary E. Dotson through the Gordon sand to 2,556 feet and it was dry.

In Tyler County, K. M. Wirhart and others drilled a test on the W. J. Bell farm in Union district through the Injun sand to 1,723 feet without production.

In Wayne County the Hamilton Gas Co. test on the G. L. Wilson farm in Ceredo quad, Westmorland district, was finished at 2,943 feet. The Brown shale was at 2,502-2,943 feet. It gauges 68,000 feet a day.

In Wetzel County, Manufacturers Light & Heat Co. drilled the test on the Thurman Goddard farm in Proctor district through the Big Injun sand to 2,053 feet and it was dry.

Oriskany Gas Field

In Kanawha County, several wells were completed. In Elk district, S. B. Avis, trustee, has a gas well in the Kanawha Valley Bank Co. No. 7, with the Oriskany topped at 5,015 feet, and at 5,041 feet it was showing 130,000 feet a day before shot.

In Poca district, Guy B. Ray completed the Harry Thaxton test with the Oriskany at 4,931 feet, and at 4,959 feet there was a gauge of 1,250,000 feet a day before shot. The Trenton Gas Co. completed the test on the L. E. Campbell farm at 5,024 feet with the Oriskany topped at 5,006 feet and a gauge of 8,620,000 feet a day.

In Poca district, towards Sissonville, the Hays Oil & Gas Co. test on the E. A. and J. E. Humphreys farm was completed at 4,904 feet and gauges 14,209,000 feet a day. The top of the Oriskany was at 4,884 feet. The United Carbon Co. is completing the test on the R. E. Eagan and others lease with the top of the Oriskany at 4,723 feet, and 28 feet in the test gauges over 3,000,000 feet a day.

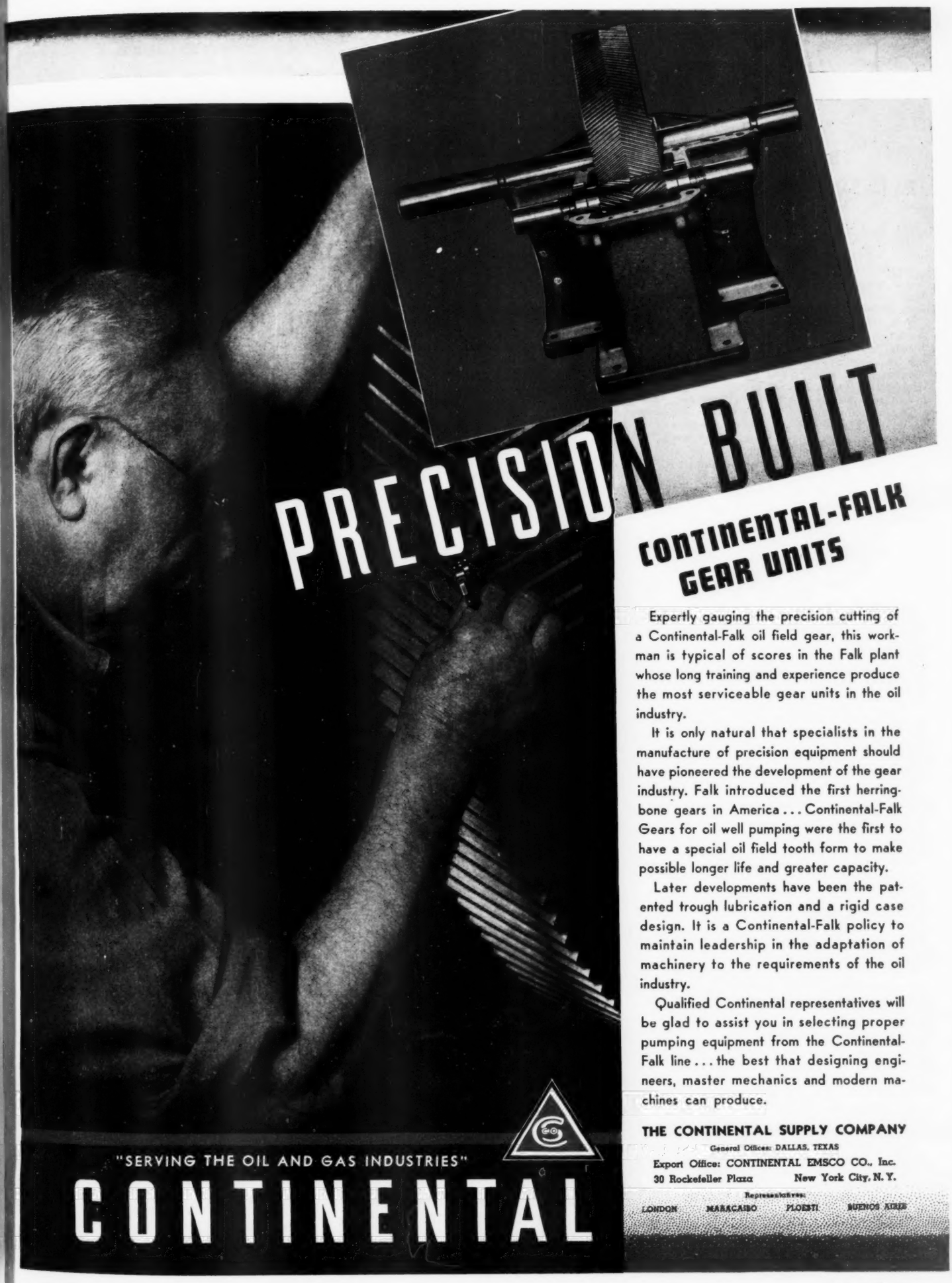
In Union district the test of Godfrey L. Cabot, Inc., on the Fred Strasser farm surprised after the shot with a gauge of 5,000,000 feet a day after having presented a poor initial. The same was true of the Columbian Carbon Co.'s test on the C. B. Cavender and others lease, which gauged 4,351,000 feet after shot. This moves the territory westward.

Outside Deep Tests

An outside deep test completed in the fall, but just recently released, is that of the Owens-Illinois Glass Co. on the Bull Creek Coal & Land Co. in Peytona district, Boone County. Oriskany 4,607-18 feet with gas at 4,610-15 feet. The total gauge was 300,000 feet a day. It was No. 12, and No. 13 is now drilling down to test the structure.

In Jackson County, the Potter Development Co. is still fishing at 1,067 feet in the test on the William Chancey farm in Ripley district. In Otter district, Clay County, Pittsburgh & West Virginia Gas Co. is cementing a cave at 5,308 feet in the test on the Jesse Chapman farm.

In Wirt County, the test of the Carnegie Natural Gas Co. on the W. O. Caplinger farm in Tucker district is drilling at 5,484 feet or 138 feet below the bottom of the Oriskany sand.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CONTINENTAL

Southwest Texas District

NEW POOLS ARE ASSURED IN VICTORIA, NUECES COUNTIES

By
F. L. SINGLETON

HOUSTON, Tex., Jan. 3.—Two oil fields were added to the Southwest Texas district the past week and all indications point to an active development program early in the new year.

Ten miles west of Corpus Christi and 2½ miles northwest of the Saxet field, Nueces County, L. A. Douglas is running 7-inch casing preparatory to testing No. 1 Charles McKenzie after a drill-stem test showed several hundred feet of 37-gravity oil. The sand section, identified as the Frio formation, was topped at 5,794 feet and cored to 5,810 feet. On a seven-minute drill-stem test at 5,806-10 feet, it is estimated that 3,500 feet of oil was recovered and that 2,300 feet of oil was blown into the air while the testing tool was being pulled. Before casing was run the hole was cored to a total depth of 5,813 feet, but no recovery was made.

The well is located in the B.S.&F. Survey No. 419 on a block of several thousand acres held jointly with the Phillips Petroleum Co. The latter company drilled a dry hole about 1½ miles to the west, and it is reported that the Douglas test is checking several hundred feet higher. The structure was worked with geophysical instruments by Phillips Petroleum Co. Protection acreage is held by the Sun Oil Co., Mills Bennett Production Co. and the Renwar Oil Corp.

Victoria's New Pool

Five miles southwest of Telfener, in the Thomas Burnham Survey, eastern Victoria County, W. V. Bowles No. 1 Robertson was swabbed in at the close of the week and is flowing an estimated 20 bbls. of pipe line oil per hour through a quarter-inch choke with tubing pressure 150 pounds and casing pressure 900 pounds. Production is from a screen setting made in a sidetracked hole from 5,100-14 feet, the total depth. The well is on a block of approximately 2,500 acres about 5 miles west of the Keeran field and 10 miles northwest of the Placedo field.

Northeast of the Luby field, Nueces County, Richardson Petroleum Co. No. 1 Chapman was testing through perforated casing at 5,409-24 feet, but no reports had been received. This test promises to open a 1-mile extension to the field. In the field proper, Seaboard Oil Corp. No. 3 Luby flowed 162 bbls. per day through a one-eighth inch choke from perforations at 5,055-69½ feet. In the B. M. Falcon Survey and 933 feet due west of No. 2, Stanolind Oil & Gas Co. No. 1 Spessard logged oil sand 4,324-50 feet, where it was completed for an initial production of 130 bbls. through a one-eighth inch choke with 920 pounds pressure on the casing and 860 pounds on the tubing.

North of the Agua Dulce field, Nueces County, Union Producing Co. No. 1 Galladay was coring in shale below 6,700 feet after it attempted to blow out from sand at 6,704-06 feet. Same company's No. 1 Simmonds, west of Banquette, is drilling below 7,658 feet with no showings reported.

In Jim Wells County, H. H. Howell is starting his second test, near his No. 1 Talbot, which recently indicated a new pool opener. The new test is No. 1 Otto Goldoff, a west offset to No. 1 Talbot in the La Vala Survey, Abstract No. 166.

Laredo District

In the Laredo district, new development for the Los Animas gas field in Jim Hogg County was forecast following the completion of the first oil well by Darby Petroleum Corp. No. 2-B Holbein, which was shut in for storage after it flowed an estimated 3,000 bbls. of oil into the pits. The hole is bottomed at 1,828 feet and production was obtained through perforations at 1,819-22 feet. It is in section 7, Block 70, of the Los Animas grant.

Nessly and others No. 3 A. M. Bruni, a prospective pool opener in Webb County, was being tested after cementing casing on bottom at 1,813 feet. The test will be made through perforations at 1,803-07 feet, where a section of oil sand was logged. In the same county, and midway between the Oilton and Killam fields, Lewis H. Jones No. 1 Saenz drew considerable attention as preparations were made to test an oil sand logged at 1,922-27 feet. It is in Block 6, Survey 1,005.

Midway between the Mirando Valley and Aviator fields in Zapata County, Oil County Pipe & Supply Co. No. 1 Benavides, Block 16, Survey 11, perforated casing at 1,375-79 feet and is reported to have been completed for a dry gas well. This is an old well that was abandoned October 23, and a production test was made after a Schlumberger survey showed sand from 1,365-1,402 feet.

Production from the Cockfield section in the Benavides field, Duval County, was extended a short distance to the south with the showing of Glenn H. McCarthy No. 1 Plocker, which is bottomed in oil sand at 5,369 feet and casing was being run for a production test. This well tested gas in the Cole sand at 3,800 feet and oil-cut mud and several hundred pounds of pressure was recovered from the 4,700-foot section. On the extreme east side of the field about one-half mile from production, a "stray" sand was apparently opened by Frank Gravis No. 1-A Vaello Puig which is flowing distillate after perforating the casing at 4,000 feet. This test was drilled to a total depth of 6,018 feet and it was considered a dry hole after it failed in the 4,700- and 5,300-foot sands.

A scheduled production test of Atlantic Refining Co. No. 1 American Rio Grande, 3 miles southwest of Weslaco, Hidalgo County, was holding attention of operators interested in the Rio Grande Valley area. Bottomed at 9,104 feet with 5-inch casing cemented on bottom, the production test was expected to be made around 8,600 or 9,000 feet, where several gas sands were logged. If productive, it is expected to be a wet gasser.

With the abandonment of two interesting wildcats in Kennedy and Kleberg counties, wildcatting in that area was at a low ebb. In Kennedy County, La Sal Vieja Oil Corp. No. 1 Garcia Land & Cattle Co., 7 miles northwest of Raymondville, Block 95, was abandoned at 9,005 feet, while in Kleberg County, Superior Oil Producing Co. No. 1 Koch, Rivera Beach Prospect, was abandoned at 7,512 feet.

Balcones Fault Area

Few important developments were reported for the Balcones Fault line district. Continuations of heavy rains, together with the lull in activity brought about by the holiday season, has resulted in a decline in operations. In the Lost Mule field, Caldwell County, McNeill Petroleum Co. No. 2 Marina cored lime showing oil at 1,840-42 feet and the hole is being swabbed after cementing 5½-inch casing at 1,834 feet. Edwards lime was topped at 1,831 feet. This is the first well drilled since the completion of the discovery well.

In the Batesville area, Zavalla County, H. F. Wilcox Oil & Gas Co. No. 2 Gillam was plugged back to 3,958 feet and drilled out to a total depth of 3,977 feet, where it was treated with 500 bbls. of acid. The hole is being swabbed and was showing nothing but acid water and sulfur water. At the end of the week the fluid had been swabbed to 2,400 feet from the bottom of the hole.

COMPLETED WELLS IN SOUTHWEST TEXAS DISTRICT

Completed wells in the proven fields with their total depth, and the initial 24-hour production of the producing wells were as follows:

San Patricio County

McCampbell field: Tom Graham No. 2 Dunn, 7,142 feet, 135 bbls. through nine-sixty-fourths inch choke.

Brooks County

Alta Mesa field: Standard Oil Co. of Texas No. 10 Mestena, perforated casing at 2,597-2,613 feet, 15 bbls., pumping.

Caldwell County

Dale field: Marts & Beavers No. 1 Miears, 2,565 feet, abandoned. Luling field: Murchinson & Reed No. 3 Jennings, 2,085 feet, 300 bbls.; Murchinson & Reed No. 2 Jennings, 2,085 feet, 500 bbls.

Duval County

Benavides field: Bridwell Oil Co. No. 8 Ancira, 4,784 feet, 410 bbls. through one-quarter inch choke; Circle Oil Co. No. 1-A West, perforated casing at 3,864-75 feet, completed as gas well; Humble Oil & Refining Co. No. 1 Moyer, 5,392 feet, 139 bbls. in nine hours through one-quarter inch choke. Navarro Oil Co. No. 1 West, 5,339 feet, 80 bbls. in 16 hours through one-quarter inch choke; Russ Petroleum Co. No. 11 Farias, 4,817 feet, 83 bbls. in 12 hours through quarter-inch choke. Labbe field: Magnolia Petroleum Co. No. 12 Labbe, oil sand 2,842-51 feet, 10,000,000 feet of gas. Piedra Lumbre field: Magnolia Petroleum Co. No. 11 Duval County School ranch, 3,137 feet, abandoned.

Jim Hogg County

Alworth field: French Oil Co. No. 7 Garza, 1,053½ feet, gas well. Las Animas field: Darby Petroleum Corp. No. 1-C Holbein, 1,865 feet, gas well.

Karnes County

South Burnell field: Luling Oil & Gas Co. No. 15 Boyce, oil sand 3,662-66½ feet, 236 bbls. through five-thirty-seconds inch choke.

McMullen County

Rhodes field: Argo Royalty Co. No. 1 Edrington, 1,773 feet, gas well.

Nueces County

Flour Bluff field: Humble Oil & Refining Co. No. 6-A Miller, 6,652 feet, 163 bbls. through one-eighth inch choke. Luby field: Seaboard Oil Corp. No. 7 Luby, 5,072 feet, 146 bbls. through one-eighth inch choke; Seaboard Oil Corp. No. 3 Shaefer, perforated casing at 5,045-57½ feet, 192 bbls. through one-eighth inch choke. Saxet field: Daniel McGahey No. 1 Cryer, perforated casing at 4,078½-82½ feet, 85 bbls., jetting with gas; Southern Mineral Corp. No. 4 Page, 4,873 feet, 69 bbls. through three-eighths inch choke, jetting with gas.

Refugio County

Fox field: Hewitt and Daugherty No. 62 Lambert, 5,878 feet, 156 bbls. through three-sixteenths inch choke. Refugio field: South Oil Corp. No. 14 Heard, 4,920 feet, 156 bbls. through one-eighth inch choke. Tomoconnor field: Quintana Petroleum Co., perforated casing at 5,839-45 feet, 1,626 bbls. through one-quarter inch choke.

San Patricio County

Plymouth field: Plymouth Oil Co. No. 91-C Welder, perforated casing at 5,642-46 feet, 168 bbls. through nine-sixty-fourths inch choke.

Webb County

Killam field: O. W. Killam No. 3-B Garcia, 1,987½ feet, 35 bbls. through three-eighths inch choke; Navarro Oil Co. No. 5 Perez, oil sand 1,987-96 feet and 1,992-95 feet, 44 bbls., pumping.

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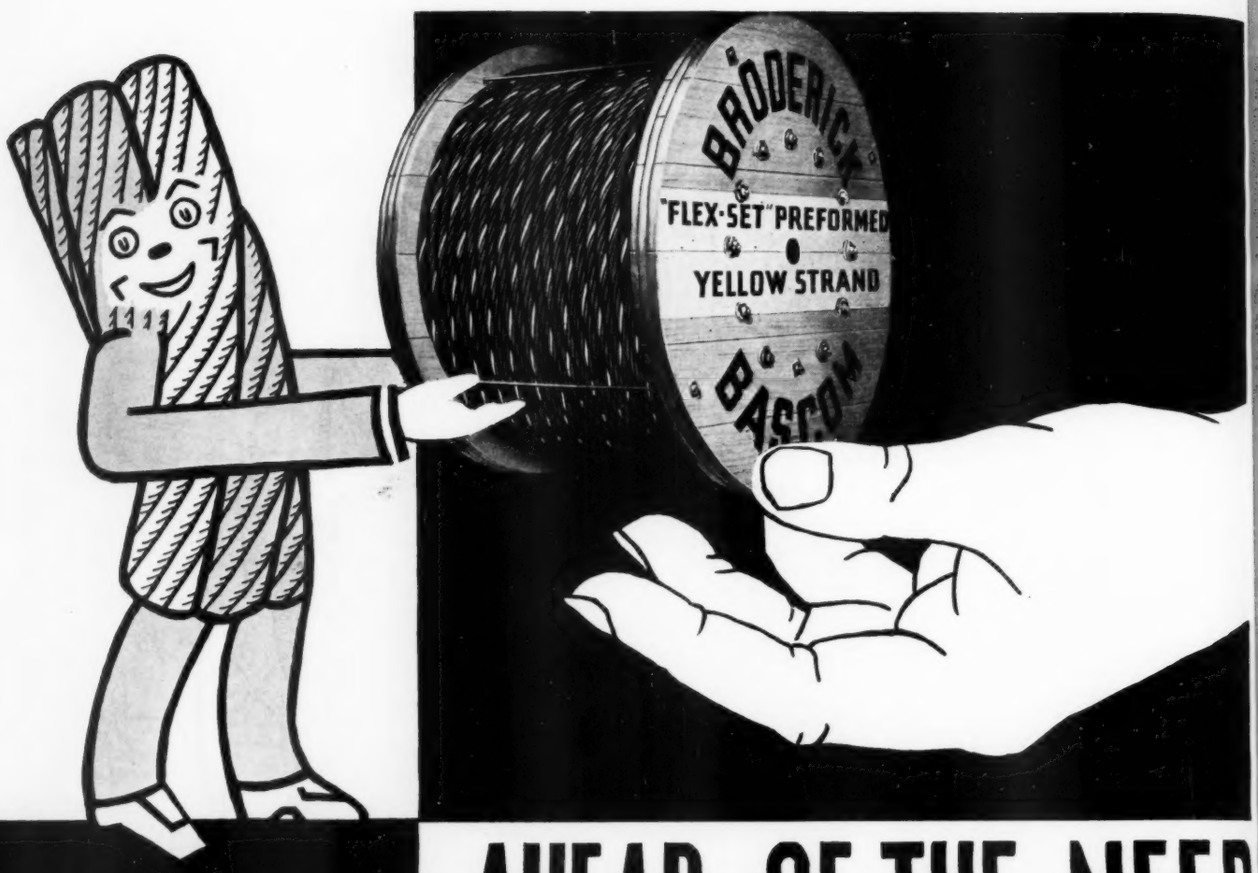

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East and East Central Texas

By MITCHELL TUCKER

E. TEXAS OPENS NEW YEAR WITH 109 WELLS DRILLING

DALLAS, Tex., Jan. 3.—In the East Texas field proper 42 oil well completions were made last week, bringing total producers for that field to 24,267. Thirty-nine wells were rigging up and 109 drilling in the field, as compared with 39 rigging up and 114 drilling for the previous seven-day period.

Flag Lake Field

The Flag Lake field, producing from the Woodbine sands in the Mabank area of Henderson County, may see an increase in activity within a very short time. The discovery well, Sherman Hunt and others No. 1 A. R. Dillard, in the J. Jefferies Survey, has a potential of more than 100 bbls. daily and although no pipe line connects with this field, 3,700 bbls. of oil have been transported out by truck. Several of the adjoining leases will expire in the early months of 1938 which will stimulate activity in the area.

Anderson County

Parsons and others No. 1 Hemby, 6 miles southwest of Elkhart in Anderson County, shows possibilities of a new gas structure. On a drill stem test from 3,392 feet the well had a good showing. However it was deepened to 5,407 feet, where it again had a gas showing and a slight taste of distillate, with 50 pounds pressure. Operators are preparing to core deeper from the present depth of 5,407 feet.

Opelika Flow Granted

Tide Water Associated Oil Co. and others No. 2 McElreath and Suggett, deep gas-distillate producer in the W. P. Wyche Survey, Opelika area of Henderson County, have been granted permission for a 30-day flow of the well. When the well was closed in about a month ago, it was producing at the rate of 9,000,000 feet of gas and 360 bbls. of distillate daily. It is thought that a prolonged flow may possibly result in an increased showing of oil, or a reduction in the gas-distillate ratio.

Kelsey Dome

The deep Kelsey Salt dome exploratory test in west central Upshur County made good advancement last week. This is the Tom Hunter and American Liberty Oil Co. No. 1 J. P. Carter in the J. H. Fields Survey, 1 mile north of Kelsey. In the course of drilling the well topped the Woodbine sand at 3,592 feet and the Georgetown lime at 3,938 feet. Ten-inch casing was set at 3,949 feet and operators are now waiting on cement to set.

Deep Mexia Test

Pure Oil Co. No. 16 T. Kendrick, in the P. Varella Survey, on the east edge of the Mexia field of Limestone County, is now plugging back from a depth of 8,847 feet. This was the deepest attempt in East Central Texas to explore the Lower Marine Trinity, but with an impossible fishing job at about 8,840 feet operators abandoned the hope of drilling deeper. With drill stem and cutting pipe still stuck in the hole, tests will be run on the upper sands that showed production possibilities.

Talco Field

Activities in the Talco pool of eastern Franklin and Titus counties again showed a decline last week with only five wells completed and 18 drilling as compared with seven completions and 24 drilling wells the previous week. However, four new locations were staked during the past week while there were none the preceeding week. The total number of completed wells in the Talco pool now equals 590.

Sulphur Bluff

Walter Goldston's deep test No. 1 Smith in the Sulphur Bluff field of Hopkins County was drilling below 5,700 feet. Unattractive showings were found last week in the Paluxy sand and operators are now seeking production in the Lower Trinity sands.

EAST TEXAS FIELD COMPLETIONS

Gregg County

Amerada Petroleum Corp. No. 4 J. Freeman, 3,674-94 feet, 51 bbls. per hour; No. 11 A. Tooke, 3,493-3,523 feet, 66 bbls. per hour; No. 8 J. M. Tuttle, 3,501-31 feet, 50 bbls. per hour. Atlantic Refining Co. No. 8-B A. Tooke, 3,526-3,637 feet, 93 bbls. per hour. Croley & Crosby No. 3 A. Christian, 3,577-3,604 feet, 60 bbls. per hour. Dyke Oil Co. No. 12 J. M. Christian, 3,555-80 feet, 60 bbls. per hour. General American No. 25 T. B. Harris, 3,504-06 feet, 66 bbls. per hour. Humble Oil & Refining Co. No. 12 C. C. Clements, 3,659-3,719 feet, 43 bbls. per hour; No. 18 Killingsworth, 3,548-69 feet, 60 bbls. per hour. Magnolia Petroleum Co. No. 10 Beavers, 3,541-3,556 feet, 120 bbls. per hour; No. 20 A. Christian, 3,645-60 feet, 80 bbls. per hour. I. Richey No. 1 fee, 3,531-85 feet, 60 bbls. per hour. Shell Petroleum Corp. No. 28 A. N. and V. King, 3,580-3,625 feet, 60 bbls. per hour; No. 12 B. Moore, 3,515-80 feet, 60 bbls. per hour. Stanolind Oil & Gas Co. No. 4-A A. Christian, 3,578-3,640 feet, 53 bbls. per hour. Superior Oil Co. No. 12 A. Jones, 3,595-3,670 feet, 128 bbls. per hour. Tide Water Oil Co. No. 16 W. E. Jones, 3,635-49 feet, 54 bbls. per hour. General American No. 17 J. Douglas, 3,644-71 feet, 36 bbls. per hour. Gulf Oil Corp. No. 42 A. Spears, 3,544-69 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 29 J. A. Knowles, 3,539-94 feet, 58 bbls. per hour. W. L. Humphries No. 1 Thompson, 3,519-47 feet, 10 bbls. per hour. T. L. James No. 12 Lacey, 3,527-76 feet, 45 bbls. per hour. Magnolia Petroleum Co. No. 12 A. P. Hale, 3,534-41 feet, 20 bbls. per hour. B. F. Phillips No. 3 Greggston, 3,588-89 feet, 7 bbls. per hour. H. R. Smith No. 5 Peterson, 3,559-77 feet, 60 bbls. per hour.

Rusk County

L. J. Wardlaw No. 3 E. Camp, 3,516-36 feet, 9 bbls. per hour. Meco Production Co. No. 15 Williamson, 3,700-01 feet, 51 bbls. per hour. Navarro Oil Co. No. 29 Brightwell, 3,619-41 feet, 50 bbls. per hour. Ambassador Oil Co. No. 8 London School, 3,756-66 feet, 60 bbls. per hour. F. W. Fisher No. 3-B Wilson, 3,753-63 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 16-A V. Turner, 3,682-92 feet, 78 bbls. per hour; No. 24 Wheelis, 3,729-31 feet, 60 bbls. per hour. P. G. Lake No. 17 B. Reid, 3,610-38 feet, 26 bbls. per hour. Pine Petroleum Co. No. 9 Giles, dry and abandoned at a depth of 3,602 feet. Sinclair Prairie Oil Co. No. 1-E M. Kennedy, 3,576-79 feet, swabbed 6 bbls. per hour. Sun Oil Co. No. 27 J. R. Beall, 3,585-86 feet, 50 bbls. per hour.

Upshur County

Boller & Rutledge No. 14 J. M. Todd, 3,737-43 feet, 5 bbls. per hour. Ellis Oil Co. No. 20 C. J. Mackey, 3,666-67 feet, 24 bbls. per hour. E. P. Halliburton No. 12-C Lodden, 3,658-59 feet, 42 bbls. per hour. Sun Oil Co. No. 21 E. O'Byrne, 3,707-09 feet, 20 bbls. per hour. Terola Drilling Co. No. 8 C. J. Mackey, 3,721-25 feet, 12 bbls. per hour.

Smith County

McMurray Corp. No. 15 Robinson, 3,818-19 feet, 40 bbls. per hour.

EAST CENTRAL TEXAS COMPLETIONS

Franklin County

In the Talco pool, L. S. Flannery No. 11 Hedricks, 4,277-4,315 feet, pumped 412 bbls. per day. Housh & Thompson No. 11 Owings, 4,126-4,270 feet, pumped 400 bbls. per day.

Grayson County

Denver Production & Refining Co. No. 1 E. B. Moore, was dry and abandoned at a total depth of 3,523 feet.

Titus County

In the Talco field, Humble Oil & Refining Co. No. 54 A. P. King, 4,196-4,313 feet, pumped 92 bbls. per day. Humble Oil & Refining Co. No. 4 Pan-American, 4,233-41 feet, pumped 193 bbls. per day. Magnolia Petroleum Co. No. 3 L. Blackburn, 4,195-4,282 feet, pumped 448 bbls. per day. Scott Brothers No. 1-C Edwards, 4,294-4,304 feet, pumped 104 bbls. per day.

In the Talco pool, Byrd-Frost No. 6 Belcher, 4,256-92 feet, pumped 463 bbls. per day. Humble Oil & Refining Co. No. 10 Monnig Dry Goods Co., 4,201-4,323 feet, 313 bbls. per day. Magnolia Petroleum Co. No. 15 Mainard, 4,259-4,308 feet, pumped 359 bbls. per day.

This group of contractors and supply men were photographed in the K.M.A. field in Wichita County, Texas. Reading from left to right they are Jack Grace, Grace & Woods Co.; J. B. Price of Price & Wilson, also superintendent for Golding & Cochran; B. F. Allison, Allison-Meller Supply Co.; Theodore Turner and Roy L. Brock, also with Allison-Meller, and R. L. Sutton, superintendent for Target Drilling Co.

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North Louisiana, Arkansas

LARGEST WELLS IN LISBON; LODI-JEFFERSON CONNECTED

By GEORGE WEBER

SHREVEPORT, La., Jan. 3. — As a result of high water in several sections of North Louisiana and Arkansas, and general shutdown of drilling activity over the holiday season, new developments in this district were few during the past week.

Lincoln Parish, North Louisiana, has an important wildcat in the Oakes & Easton No. 1 Griggs, which shows indications of opening new production. In East Texas Border, the Lodi and Jefferson areas, included under Rodessa, although removed a few miles from the main field, were joined during the week by completion of the H. B. Turner No. 1 Scuddy.

Also in the East Texas Border sector, a Harrison County test in the Waskom field blew out, making considerable gas, before it was partially killed by bridging early this week.

The Schuler field of Union County, Arkansas, is currently the most active section in that state, and successful completions in the new deep Jones sand presage a large drilling campaign in the field for weeks to come.

RODESSA COMPLETIONS
Caddo Parish

Four oil wells were added in the Louisiana part of the tri-state Rodessa field, although two of them have not yet been gauged. F. W. Burford No. 2 Terry, NE section 2-23-16, was completed in sand at 5,995-6,000 feet for no gauge with total depth at 6,026 feet.

In NW quarter section 3-23-16, Gulf Refining Co. No. 1 Allison, with 7-inch casing set at 5,928 feet and total depth at 6,024 feet, made 120 bbls. per day on a 21/64-inch choke, according to the potential test made last week.

Shell Petroleum Corp. No. 1-A Government, NE SW SE section 9-23-16, flowed 117 bbls. per day on a one-half-inch choke with total depth at 5,953 feet.

G. H. Vaughn No. 1 Sartor, NE quarter section 3-23-16, has been completed but no potential gauge is yet available.

Activity in the Louisiana portion of Rodessa remained at the same level, with four new locations replacing the four completed tests.

RODESSA—TEXAS

The Texas end of the Rodessa field, particularly the Marion County part, is the most active in the field. Outstanding feature of the week in that district was the completion of the H. B. Turner and others No. 1 Scuddy. The test is located midway between the Lodi and Jefferson areas, both of which are included under Rodessa in the field rules and proration measures of the Texas Railroad Commission.

Completion of the link test is important, and will probably lead to considerable added activity in the section. The well made an estimated 500 bbls. per day on test. Total depth is 6,025 feet and 7-inch casing was set at 5,995 feet. The Turner well is located a few hundred feet southwest of the Gulf No. 1 Grubaugh, southwest edge well in the Lodi area, and about the same distance northeast of Shell Petroleum Corp. No. 1 Henderson, on the northeast edge of the Jefferson field.

Other completions in the Marion and Cass County sector totaled five.

W. C. Feazel brought in No. 1 Parker, in the G. Crowder Survey, for a gauge of 168 bbls. per day on one-eighth-inch choke. Total depth is 6,090 feet and 7-inch casing was set at 6,030 feet.

Arkansas-Louisiana Gas Co. No. 2 Wade Harrison, Coy Survey, made an initial production of 545 bbls. per day through a quarter-inch choke with 7-inch casing set at 6,054 feet and total depth of 6,094 feet.

George Barham No. 1 Brantley, in the Bennington Survey, Jefferson section of the field, was completed for 653 bbls. per day at a total depth of 6,070 feet.

Gulf Refining Co. No. 1 Grubaugh, Coy Survey, in the Lodi section, came in making 452 bbls. per day on a quarter-inch choke with 5-inch casing set at 6,097 feet and total depth at 6,126 feet.

Gulf Refining Co. also completed one well in the Jefferson area, No. 1 Kemper, in the Bennington Survey, making 720 bbls. per day on a half-inch choke with 5-inch casing set at 6,053 feet and total depth 6,085 feet.

RODESSA—ARKANSAS

With proration of the Rodessa, Miller County, oil wells impending on the first of the year, activity in that section has been dropping off for several weeks. The wells, now limited to a top allowable of 200 bbls. per day, were, however, making very nearly that amount before state restrictions were placed in effect, due to decreased takings by pipe lines serving the area.

In Miller County, three producers were recently complete, and one test was shut in after showing gas.

The W. C. Feazel No. 1 Farmer, SE quarter section 13-20-28, flowed gas at total depth of 6,098 feet and is shut in with no gauge.

In the E half, W half, section 15-20-28, Roger Lacy No. 2 Grogan set 7-inch casing at 6,015 feet, with total depth of 6,042 feet, and came in making oil, with no gauge yet reported.

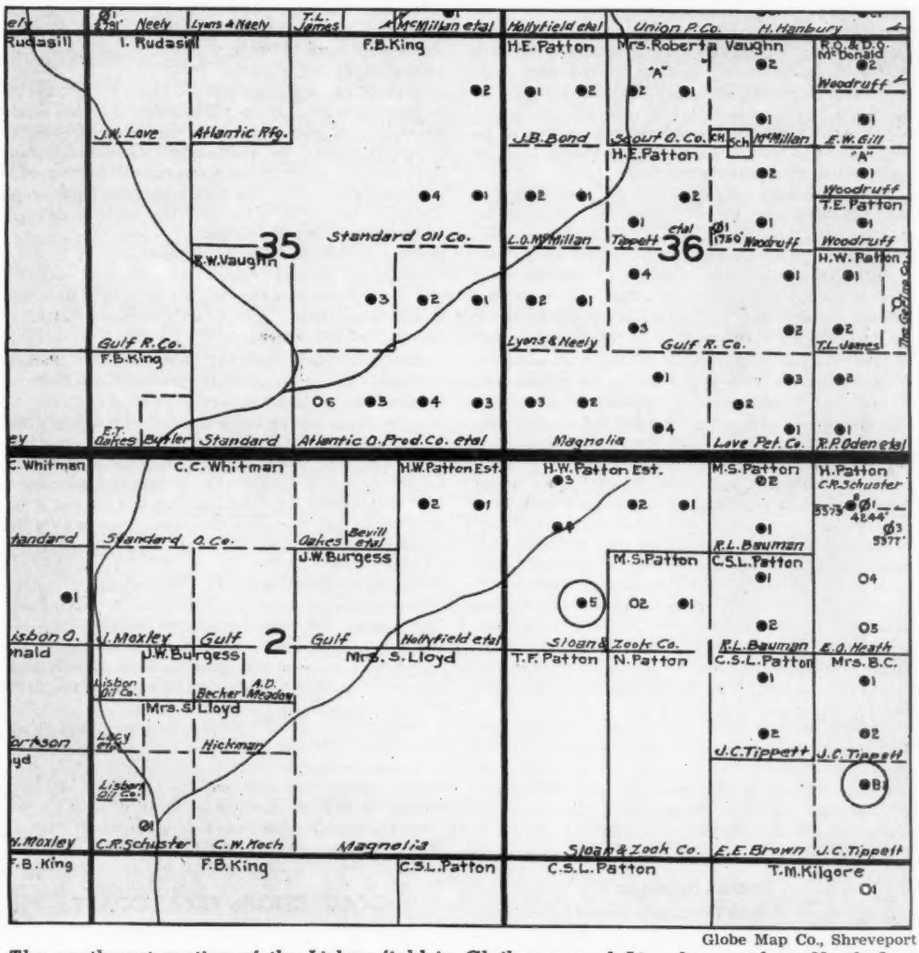
Roger Lacy No. 1 Sartor, SE W half section 15-20-28, made an initial production of 1,440 bbls. per day on a 1-inch choke, total depth 6,040 feet.

McClanahan and others No. 2-B Capps, SW quarter section 11-20-28, made 47 bbls. per day at a total depth of 6,081 feet.

Wild Well

In Harrison County, in the East Texas Border section, a Waskom test, Arkansas-Louisiana Gas Co. No. 1 Abney in the E. Little Survey went out of control early in the week, while operators were coming out of the hole from

(Continued on Page 77)



Globe Map Co., Shreveport

The southwest section of the Lisbon field in Claiborne and Lincoln parishes, North Louisiana, is showing up well, with some of the largest producers yet completed in the pool. Sloan & Zook No. 5 Patton, indicated by the circle, made 48 bbls. per hour on natural flow, the best production for an untreated well in the field. It is on the southwest edge of production. Atlantic Refining Co. brought in a 240-bbl. well on the south edge, extending the field slightly in that direction.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

OPEN TWO POOLS; PROSPECT OF MORE EARLY IN THE YEAR

HOUSTON, Tex., Jan. 3.—Two new oil fields were opened along the Gulf Coast district the past week and prospects were bright that three more would be added to the productive list early this year as drill stem tests on wildcats showed favorable indications.

Shell Petroleum Corp. No. 1 McFaddin, located on the McFaddin Beach Prospect, Jefferson County, was turned into the tanks at 4 a.m. December 30, and is flowing at the rate of 25 bbls. of 34.2-gravity oil per hour through a quarter-inch choke, with tubing pressure 925 pounds and casing pressure 875 pounds. Production is from the Miocene sand, bottomed at 5,929 feet. Nine and five-eighths inch casing was cemented at 5,913 feet. The well is located in the S. A. Pace Survey No. 2, on a large block, held jointly with the Humble Oil & Refining Co.

Interest in this county is now centered on the Cheek area, north and slightly west of the new field, where Glenn H. McCarthy is running casing preparatory to testing No. 1 J. E. Broussard. Bottomed in the Frio formation at 7,732 feet, a 10-minute drill-stem test was made at 7,717-32 feet. After breaking down 18 thribbles, the well started flowing fresh water and flowed for four minutes. Four thribbles of fresh water, which was used as a water cushion, were recovered along with 29 thribbles of 34.8-gravity oil, and four thribbles of salt water on the bottom. A Schlumberger survey was run at 6,728-7,732 feet and casing was ordered to be cemented. The well is located on a 40-acre lease in Lot 3 of the C. Hillebrand Survey.

A deeper producing horizon for the West Columbia field, Brazoria County, was apparently opened by Sterling Oil & Refining Co. No. 1 Smith, which showed 1,300 feet of pipe line oil and 80 pounds of pressure on a drill-stem test at 5,900-15 feet. Casing has been cemented for a production test. The well is located east of the 5,600-foot producers recently completed in the Frio sand on the north flank of the field.

The first production test to be made at Stanolind Oil & Gas Co. No. 1 Security Trust Co., Katy gas field, Waller County, resulted in a showing of salt water, and the hole is being plugged back for another test. The hole is bottomed at 7,526 feet and the production test was made through perforations at 7,450-60 feet.

Merit Oil Co. No. 1 T. & M. Wright, Cedar Bayou Prospect, Chambers County, reported last week as a distillate producer, flowed 29 bbls. of 39-gravity oil per day through a quarter-inch choke on a potential test. Production is from the Marginulina sand at 6,390-92 feet.

A short test extension to the Spurger field, Tyler County, was recorded with the completion of Republic Production Co. and Houston Oil Co. No. 6 Hurd. Bottomed at 7,710 feet with 7-inch casing cemented at 7,681 feet, it flowed 612 bbls. per day through a quarter-inch choke. This is one of the largest producers yet completed.

Another deep producer was added to the Hamman field, Matagorda County, with the completion of Hamman Exploration Co. No. 1 Slone. It is flowing an estimated 198 bbls. of 57-gravity oil from a total depth of 9,200 feet. South of this producer, Pan American Production Co. is expected to let contract for No. 1 Richers in the I.&G.N. Survey No. 3-X.

South Louisiana

Along the Louisiana Coast, and located in the Wax Lake or Bateman Lake area, St. Mary Parish, Texas Co. opened production from another 10,000-foot structure with the completion of No. 1 State Bateman Lake. Bottomed at a plugged back depth of 10,911 feet, production was obtained by perforating the casing at 10,900-05 feet which resulted in a flow of 350 bbls. of 33-gravity oil per day through a three-sixteenths inch choke, with tubing pressure 850 pounds. This test was drilled to a total depth of 11,808 feet and was plugged back after mechanical trouble developed. Bateman Lake is the second 10,000-foot structure to be developed by the company in 1937. It is located southwest of Morgan City in section 21-16s-12e.

At the Timbalier Bay Prospect, Lafourche Parish, Gulf Oil Corp. No. 3 State, section 35-23s-21e, perforated casing at 6,955-63 feet and on a seven-minute drill stem test, recovered 4,640 feet of pipe line oil and 360 feet of salt water. A cement squeeze job is being made and another test will be made a few feet higher in the section. This test has been looked upon as a possible pool opener for several weeks, as previous drill stem tests showed good results. The structure was proven a salt dome several weeks ago when salt was topped at 7,741 feet and cored to a total depth of 8,728 feet.

In the Raceland area, Lafourche Parish, Amerada Petroleum Corp. No. 1 South Coast Corp. is bottomed at 10,314 feet with 7-inch casing cemented at 9,003 feet. The operators will drill plug and then set a short string of 5-inch casing to bottom where they intended to set the 7-inch, but due to mechanical trouble were unable to do so. This is the third field expected to be on the production list after the first of the year, as oil sand was logged from 10,182 to 10,224 feet. Location is in section 34-15s-19e.

Gulf Oil Corp. No. 1 Eucila Broussard, a wildcat in section 49-10s-2w, Acadia Parish, has attracted much attention as it tried to blow out while a core was being cut at 9,678 feet, the total depth. Seven-inch casing was cemented at 9,672 feet following the running of a Schlumberger survey. The hole is expected to be cored deeper.

The North Starks Prospect, Calcasieu Parish, was marked off the list with the abandonment of D. & D. Oil Co. No. 2 Lutcher Moore. The well developed several thribbles of mud showing gas on a drill stem test at 6,975-7,030 feet. Previous tests at 8,300 and 8,500 feet showed salt water.

The South Jennings field, Jefferson Davis Parish, received its second distillate producer as Loffland Brothers No. 1 Fontenot, section 18-10s-3w, flowed 51 bbls. of 51-gravity distillate per day through a 7/32-inch choke with tubing and casing pressure equalized at 3,100 pounds. Production was obtained by perforating the casing at 8,658-63 feet. A previous test above 8,800 feet showed 20 stands of pipe line oil and some salt water, but the operators were unsuccessful in shutting off the water. The well is southwest of the discovery well.

At the Woodlawn Prospect, Jefferson Davis Parish, Union Sulphur Co. tested No. 1 Calcasieu National Bank land through perforations at 8,292-95 feet and it showed salt water. A cement squeeze job will be made and perforations are expected to be made at 8,260-84 feet. The well is located in section 12-9s-6w and is the third deep hole to have been drilled.

Gulf States Oil No. 1 Delta Orchards, Lot 3, Block 94, in the La Blanca field of central Hidalgo County, perforated casing at 7,880-88 feet and the hole was cleaned under its own pressure. It was reported making 85 bbls. of distillate daily along with an ungauged amount of gas on two quarter-inch chokes. Tubing working pressure was 2,900 pounds and closed-in casing pressure 2,950 pounds.

COMPLETIONS TEXAS COAST

Completions of the week, with pay sand record, or total depth, and initial 24-hour production follows:

Brazoria County

Hastings field: Humble Oil & Refining Co. No. 4 W. H. Schindler, 6,080 feet, 672 bbls., quarter-inch choke; Stanolind Oil & Gas Co. No. 1 Bisbee, perforated casing 6,045-76 feet, 587 bbls., quarter-inch choke; Stanolind Oil & Gas Co. No. 3 F. N. Brown, perforated casing 5,886-93 feet, 481 bbls., quarter-inch choke; Lockridge field: Shell Petroleum Corp. No. 3-B Ramsey, 6,368 feet, 388 bbls., eleven-sixty-fourths-inch choke.

Chambers County

Cedar Bayou field: Merit Oil Co. No. 1 T. and M. Wright, perforated casing 6,390-92 feet, 27 bbls., quarter-inch choke. Cotton Lake field: Humble Oil & Refining Co. No. 1 Lawrence, perforated casing 6,467-76 feet, 129 bbls., quarter-inch choke. Seabreeze field: Sun Oil Co. No. 2 Hebert, 8,490 feet, 116 bbls. per day, quarter-inch choke.

Hardin County

Silsbee field: Republic Production Co.-Houston Oil Co. No. 26 Brooks, 6,963 feet, 585 bbls. per day, quarter-inch choke.

Harris County

Friendswood: Humble Oil & Refining Co. No. 1 Cottingham, 6,090 feet, 319 bbls., quarter-inch choke. Tomball field: Humble Oil & Refining Co. No. 2 Hillegeist, 5,617 feet, 608 bbls., quarter-inch choke.

Jefferson County

North Cheek field: Magnolia Petroleum Co. No. 3 Phelan, 2,941 feet, abandoned. McFaddin field: Shell Petroleum Corp. No. 1 W. P. H. McFaddin, 5,929 feet, 25 bbls., quarter-inch choke. Nome field: Shell Petroleum Corp. No. 4-A Texas Public Service Co., 4,768 feet, abandoned; Sun Oil Co. No. 8 Long, perforated casing 5,985-6,000 feet, completed as dry gas well.

Liberty County

Cleveland field: Gulf Oil Corp. No. 20-C Kirby, perforated casing 5,800-34 feet, 24 bbls. distillate. Esperson field: General Crude Oil Co. No. 37 Esperson, 2,392 feet, 68 bbls., quarter-inch choke. Hardin field: Shell Petroleum Corp. No. 2 Cessna, 7,596 feet, 374 bbls., quarter-inch choke.

Matagorda County

Bay City: Hamman Exploration Co. No. 1 Sloan, 9,200 feet, 200 bbls., estimated.

Polk County

Segno field: H. H. Weinert, perforated casing 5,330-38 feet, 100 bbls., quarter-inch choke.

Tyler County

Spurger field: Republic Production Co.-Houston Oil Co. No. 6 Hurd, 7,681-7,710 feet, 612 bbls., quarter-inch choke.

Crude Prices

The Standard Oil Co. of Louisiana has posted the first prices to be listed for crude from the Roanoke and North Crowley fields of Coastal Louisiana. The postings, issued effective December 28, state that since they are the first to be issued for those fields, the prices apply retroactive to any crude purchased prior to December 28. The scale sets 90 cents for crude below 21 gravity, with a top of $1.36 for 40 gravity and above.

E. Raymond Shaw, in the personnel department of the Carter Oil Co. for the past five years, has been placed in charge of the public relations department of the Standard Oil Co. of Louisiana. His office will be in Shreveport, La. A. T. Wisner, formerly in the Standard of Louisiana's personnel department, has been transferred from Shreveport to Tulsa to take Mr. Shaw's place.

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Among Gulf Coast Drilling Contractors

Trinity Drillers of Corpus Christi and W. V. Bowles, contractor of Houston, drilled the wells that added two new fields to the Lower Gulf Coast district which are expected to see considerable development early this year. Two and one-half miles northwest of the Saxet field in Nueces County, Trinity Drillers is running casing for a production test in L. A. Douglas No. 1 Charles McKenzie after a drill stem test at 5,806-10 feet showed several hundred feet of pipe line oil. The well is located on a block of several thousand acres held jointly by L. A. Douglas and the Phillips Petroleum Co. Protection acreage is held by several other companies.

In the Telfener area, Victoria County, W. V. Bowles No. 1 Robertson is flowing 20 bbls. of pipe line oil per hour through a quarter-inch choke from a total depth of 5,114 feet. The well is on a block of approximately 2,500 acres about 5 miles west of the Keeran field and 10 miles northwest of the Placedo field. Several major and other companies own considerable protection in the area and much development is expected. This county is expected to be the scene of much wildcatting during the new year as development during the past few months has been most encouraging.

Loffland Brothers developed distillate production at the South Jennings field in Jefferson Parish, Coastal Louisiana, with the completion of their No. 1 Fontenot which is flowing an estimated 51 bbls. of 50-gravity distillate per day through perforated casing at 8,658-63 feet.

Heyser, Heard & Clardy, of Dallas, who have been drilling in the Silsbee field, Hardin County, for the Republic Production Co. and Houston Oil Co., received the contract for five wells to be drilled in the Jefferson field in Marion County for Dale Chessman and T. D. Henley. This particular area which until the past few weeks was referred to as a part of the Rodessa field is expected to be the scene of much development following the Railroad Commission's order which designated the area as a separate pool from the Rodessa field. The order is expected to result in a higher allowable for the wells which has been around 72 bbls. per day. Leases in the Jefferson area are divided among numerous companies and as the limits of the field are undefined, an active drilling campaign is expected.

Glenn H. McCarthy has apparently opened another field with a well drilled for himself in the Cheek area, Jefferson County, as casing is being run for a production test in No. 1 J. E. Broussard. Bottomed in the Frio formation at 7,732 feet, a 10-minute drill stem test at 7,717-32 feet showed 29 thribbles of 34.8-gravity oil and 4 thribbles of salt water. In the Southwest Texas district and located in the active Benavides field, Duval County, casing is being cemented in his No. 1 Plocked, which is expected to extend production several hundred feet to the southwest. A production test is being made on Sun Oil Co. No. 1 Bayshore farms at Palacios, Matagorda County, while in the Orange field, McCarthy's No. 2 Brown is expected to be spudded.

Rutherford Drilling Co. abandoned its wildcat drilled jointly with Tide Water Associated Oil Co. in San Patricio County, and has abandoned another wildcat in Kleberg County owned by Superior Oil Producing Co. United North & South Development Co. No. 1 Stoddard, in the Buckeye field, is shut down below 10,000 feet, while at the Van Vleck field, Matagorda County, Skelly Oil Co. No. 14 Cobb is drilling below 10,000 feet.

A recent check of drilling operations along the Texas Coast, Louisiana Coast and the Southwest Texas district, shows a decline in operations. At the close of December there were 163 active operations listed for the Texas side of the district compared to 202 at the close of November. The majority of the decline was caused by a drop in activities in the Hastings field where only 10 wells were drilling compared to a total of 23 listed at the close of the previous month. With the exception of the Hardin field in Liberty County, drilling operations in most of the older fields showed a decline. The Southwest Texas district showed a total of 223 active operations, a drop of 36 over the previous month. With the exception of the Benavides field and the Saxet field, practically all development in such fields as the Loma Novia, Seven Sisters, Killam and Oilton fields has been brought to a close.

Coastal Louisiana kept pace with the previous month as a total of 104 operations were listed which is a decline of only 2 operations over the previous month. This is due to wildcatting activities which have shown an increase throughout the year.

Louisiana Oil and Gas Code Commission Meet

ALEXANDRIA, La., Jan. 3.—The commission appointed by the governor to draft a tentative code for the oil and mineral industry of Louisiana conferred here in closed session and will hold a later meeting in New Orleans.

Announcement of the meeting was made by Sidney L. Herold, chairman of the commission. The commission considered criticisms and recommendations submitted to them.

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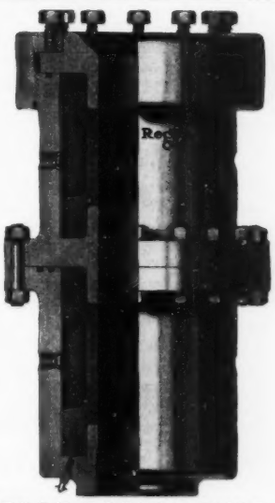

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Michigan Field Report

By
O. C. PRESSPRICH

PROMISING SECORD TEST IS SHOWING WATER IN DUNDEE

SAGINAW, Mich., Jan. 3.—The year just closed set a record for drilling activity in Michigan oil and gas fields, the state conservation department reporting a total of 970 drilling licenses issued, as compared with the previous record of 777, set in 1936.

The year's final week produced 11 permits, 4 in Isabella County, 3 in Allegan County and 1 each in Gladwin, Montcalm, Muskegon and Ogemaw counties. Three of the 11 are for gas wells.

Secord and Bentley townships in Gladwin County continued to occupy the limelight throughout an otherwise uneventful holiday week. Most momentous of developments was the apparent failure of a Secord Township well of Archie M. Henry, looked upon a week ago by all operators to be a certainty as a producer. It was Henry's No. 1-A State, SW NE NW section 12-19n-1e, an eastern offset of the successful Secord discovery well of Whitehill, Clovis & Drury in section 11. The Henry well encountered water when 112 feet in the Dundee, and was reported with 500 feet of water in the hole. Operators said the indications were such that the well probably would be abandoned, although definite orders for plugging were withheld. The apparent Henry failure in an area which held out promise of extending the Gladwin County field was regarded as a keen disappointment, although it will not retard exploration in the area, where several other tests are under way.

To the south of Secord, in Bentley Township, prospects were brighter as another successful test, Fortney Oil Co. No. 1 Hoyt Smart, NE NW NE section 29-17n-2e, was acidized into production at 260 bbls. daily. McClanahan Oil Co. No. 1 Connolly, NW NW SW section 35-17n-2e, center of interest for three weeks, flowed 128 bbls. the past week, and was put on the pump with no announcement as yet on pump production.

Hay Township, lying to the south of Secord, and directly east of the North Buckeye pool, apparently had a successful test at Petroleum Investors, Inc., No. 2 Knight, SW NW SW section 16-18n-1e, to add to a few scattered efforts in that area. The well was unsuccessfully acidized after a good show of oil, and operators announced it will be deepened. The Hay Township field is looked upon as an eastward extension of the North Buckeye pool, with no indication as yet of connecting with the Secord field.

Holiday inactivity was evident in all sections of central Michigan's oil fields although six producers were added to the Buckeye Township field, with the South (Oard) pool claiming honors both in number and for the largest producer of the week.

South Buckeye

Topping the list of South pool producers was a 700-bbl. well after acid at R. F. Voorhees No. 3 Buehler, NE NW NE section 26-18n-1w, which proved to be one of the best producers to date in section 26—a connecting link in a series of wells which have definitely joined the midway sector in section 23 with the South pool. Section 26 has become a busy sector, with a chain of wells either in production or underway. Another section 26 test of the week was S. & S. Oil Co. No. 1 Fritzwater, SW SE NE, which developed 200 bbls. daily after acid.

T. F. Caldwell, Inc., No. 1 Hostetter, SE SE NE section 27-18n-1w, a test which has been beset with hard luck since last May, gave up further effort last week on its present site after a long and unsuccessful fishing job, and will skid the rig to a nearby location.

What appears as a test that will develop into favorable production is Gordon Oil Co. No. 2-D State, NE NE NW section 35-18n-1w, which was flowing by heads last week while being completed. Operators regarded the well as a highly favorable producer. Bell & Marks No. 3 Arkwright, NW SW NE section 35-18n-1w, was brought in as a 75-bbl. natural producer and was expected to be acidized. Turner Petroleum Corp. No. 3 McMahon, SW SE SW section 36-18n-1w, proved a disappointment and will be deepened or treated further after a gauge of only 15 bbls. daily after acid. The test ranked among the poorest of the lower South pool wells. Victory Petroleum Co. No. 1 Maier, NE SE NW section 35-18n-1w, gauged 400 bbls. daily after acid from 100-bbl. natural production.

North Buckeye

North Buckeye activity was confined to one lone producer last week, although several tests were near pay sand and scheduled to be completed as early 1938 additions to proved territory. The sole producer of the week in the north field was Cryden Petroleum Corp. No. 2 Shaffer, NW SE SW section 12-18n-1w, which gauged 75 bbls. naturally. The well was an addition in the eastern part of the north pool, connecting with the Hay Township development.

Allegan County—Salem Township

Two producers and a dry hole were reported in Michigan's latest field, in Allegan County, representing the first productive activity in the field recently. Michigan Devonian Petroleum Corp. No. 2-A Goodman, NE SE SW section 16-4n-13w, gauged 100 bbls. daily after acid, and the same company's No. 2 Huizinga Heirs, NE SW NW section 22-4n-13w, produced 175 bbls. after acid. The unsuccessful test was Lima Oil Corp. No. 1 Iva Nahr, SW SE NW section 22-4n 13w, which failed to log a show. Another dry one in Allegan County was Sprenger Brothers No. 1 McCarn, NW NE NW section 19-1n-13w.

Bay County

Two dry holes in Bay County rewarded efforts to find a favorable producer. They were in widely separated areas. They were Fortney Oil Co. and H. Hand No. 1 Smart, NW NW SW section 7-16n-5e, and Charles Weller No. 1 Dewyer, NW NW SW section 20-16n-3e.

Montcalm County—Crystal Township

Jetter Drilling Co. No. 1 Loucks, NW SE NW section 12-10n-5w, added a dry hole to the Montcalm field, and R. M. Burch, trustee's No. 1 Houghton, SE SW SW section 6-12n-6w, was dry in the gas pay at 1,311 feet.

Ogemaw County—West Branch Township

Two producers developed in the Ogemaw field last week. They were Weber Oil Co. No. 1 Nelson, SW NW NE section 36-22n-2e, a 100-bbl. daily producer, and the same company's No. 2 Fisher, SW SW NW section 35, which was acidizing after a fair show in the natural state.

New York-Penna. Gas Fields

COUDERSPORT, Pa., Jan. 3.—Two completions, both in Pennsylvania, are included in the recent report of operations in the New York-Pennsylvania Oriskany sand gas fields for the final week of 1937.

Both wells were completed by the same company, the New York State Natural Gas Co., on the same day, December 29, in the same county, Potter, and in the same township, Harrison.

The company's A. D. Marble farm well was completed at a total depth of 5,075 feet and had an initial open flow of 8,200,000 feet. This well topped the Oriskany sand at 5,064 feet and found the first gas at 5,067 feet. The initial rock pressure was 1,200 pounds.

The well on the A. Schofield No. 2 farm was completed at a total depth of 4,976 feet and had an initial open flow of 7,300,000 feet. This well found the top of the Oriskany at 4,962 feet and the first gas show at 4,964 feet. It had an initial rock pressure of 1,210 pounds.

In addition to these completions, two New York tests, one in Troupsburg and the other in Woodhull Township, Steuben County, reached the Oriskany sand and a second Woodhull test is in the Onondaga.

Pennsylvania Operations

With the completion of two wells in the northern Pennsylvania half of the two-state field, operations on the lower side of the state line reached their lowest ebb in some time with only two wells drilling and a half dozen shut down.

Potter Development Co. is nearing the Medina in its test on the Crawford Estate farm, Keating Township, Potter County, and is reported drilling at 7,423 feet. This company is building a cement foundation at its test on the Haupt farm in West Branch Township, Potter County, and this test will likely be deepened by a rotary. Its present depth is 5,700 feet.

Ward Wasson is still shut down at 5,180 feet on the R. B. Hall farm in Genesee Township where French and others have yet to begin operations on the H. O. Perry farm where they have erected a rig.

Evjen and others are at 4,252 feet on the Dusenberry farm, Watson Township, Warren County. Updegraff is shut down at 4,830 feet on the O. E. Erickson farm, Elk Township, and Kane Industrial Gas Co. at 4,435 feet on Government Surface Lot 515, Watson Township. McKerny and others are likewise shut down for rig repairs on the Stellman farm in Rockland Township, Venango County.

New York Operations

New York State Natural Gas Co. is 7 feet in the Oriskany sand without a show of gas in its test on the A. Schaul farm in Troupsburg Township, Steuben County. The sand was topped at 5,010 feet and the well was reported drilling at 5,017 feet. The same company is drilling at 2,860 feet on the Franklin Miller farm, a second test well in this township.

The twentieth well for the Woodhull Township field of Steuben County reached the sand in the past week with indications of being a large producer. It was the New York State Natural Gas Co.'s test on the Charles Finch farm which reached the top of the sand at 4,019 feet and at 4,024 feet found the first gas show which gauged 12,000,000 feet. This well was still drilling at 4,029 feet, 10 feet in the sand.

Williamsport Oil & Gas Co. is ready to resume operations on the Della Lampson farm where new equipment has been installed. This test has been drilled to 2,400 feet. Southwestern Development Co. is shut down at 3,789 feet on the E. G. Husted farm and remains idle on location on the J. Seeley farm. This company's test on the Earl Brown farm reached the Onondaga at 3,942 feet and drilled into this formation to 3,960 feet where casing has been set and cemented.

Sylvania Corp. is drilling at 3,840 feet on the John Allen farm and at 4,070 feet on the E. G. Husted farm. Belmont Quadrangle Drilling Co. is drilling at 1,835 feet on the John Allen farm and Clancy and others are down 3,005 feet on the M. Hargraves farm.

Southwestern Development Co. is drilling at 6,404 feet in its deep test on the Federal Land Bank farm in Montour Township, Schuyler County, and at 2,580 feet on the Johnson Estate farm in Willing Township, Allegany County.

In other Allegany County operations Empire Producing Co. is drilling at 350 feet on the Della Mulvey farm, Alma Township, and Belmont Quadrangle Drilling Co. at 180 feet on the F. Hilligas farm in Willing Township.

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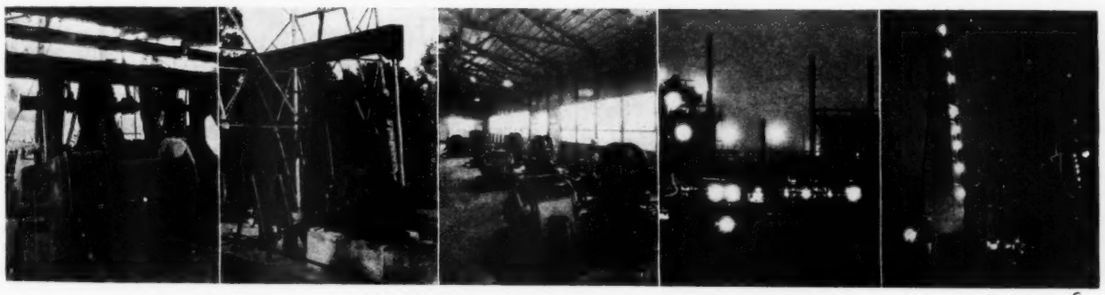

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Kansas Developments

By
DAL DALRYMPLE

EXTEND WHELAN, ALDRICH; BIG PRATT COUNTY GASSER

Field activity in Kansas had not recovered from the holiday slump the past week, the number of wells completed and new operations reported being comparatively low, but the seven-day period was not without interest. Extension wells in Ness and Barber counties gave promise of being producers, a big gasser was reported in Pratt County and another large producer was recorded in the Ellsworth County sector of the Stumps pool.

Continental Oil Co. No. 1 Olson, SW NW SE section 5-18-25w, wildcat in Ness County, in the Aldrich area, swabbed 100 bbls. of oil and a small amount of water in 24 hours from Mississippi lime at 4,301-25 feet. Water apparently was from bottom of hole and was expected to be plugged off. No definite gauge of production had been reported. It extends the Aldrich pool one-half mile northeast.

Extension of the Whelan pool of Barber County one-half mile northeast was indicated at Davis No. 1 Williams, SE SE NW section 30-31-11w. It topped chat at 4,280 feet and gauged 1,500,000 feet of gas at 4,238 feet. The hole was reported to have filled with oil at 4,299 feet, total depth, but production had not been tested.

Skelly Oil Co. No. 1 Lunt, C NW section 18-28-11w, southwest of Cairo in Pratt County, produced 43,000,000 feet of gas daily from Viola lime topped at 4,278 feet, and was shut in. It extends the Cairo, or Gilchrist, gas area one-half mile southwest.

Skelly Oil Co. No. 3 Zink, NW SW SW section 32-17-10w, Stumps area, Ellsworth County, made potential of 7,327 bbls. of oil after acidizing lime pay bottomed at 3,020 feet. It is one location north of the same company's No. 1 Zink, largest producer in the pool.

Wildcat Completions

The year ended on a sour note as far as wildcat completions were concerned, the three completed the last week in the year being dry and abandoned.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Jantz, SW cor. section 25-20-16w, Pawnee County, topped Arbuckle lime at 3,804 feet, total depth 3,822 feet, plugged back to 3,812 feet, acidized, but was dry and abandoned.

I. W. Murfin and Vernon Oil & Gas Co. No. 1 Pearson, NE cor. section 31-15-15w, Russell County, found Arbuckle lime at 3,474 feet, had a hole full of water at 3,475-80 feet, total depth, and was abandoned.

M. Steinbuchel and others No. 1 Shaffer, SW SW NW section 18-25-1e, Sedgwick County, had Simpson formation at 3,600 feet and was dry and abandoned at 3,685 feet, total depth.

Wildcat completions of Christmas week were as follows:

Texo Trading Co. No. 1 Probst, SW SW NE section 18-6s-19w, Rooks County, was dry and abandoned at 3,639 feet, total depth.

C. R. Craft and others No. 1 Ziegler, NE NE SW section 8-10-16w, Rooks County, total depth 3,581 feet, dry and abandoned.

Ross Oil Co. and others No. 1 John Hancock, NE NE NW section 5-10-17w, Rooks County, total depth 3,697 feet, dry and abandoned.

Producers Oil Co. No. 1 Tucker, SW SE NW section 23-10-17w, Rooks County, total depth 3,759 feet, dry and abandoned.

Colonial Oil Co. and Bernheimer No. 1 Albert, SW SW NE section 31-12-18w, Ellis County, dry and abandoned at 3,958 feet, total depth.

Lauck & Moncrief and others No. 1 Radenberg, NE SE SW section 6-17-12w, Barton County, dry and abandoned at 3,518 feet, total depth.

Dole-Park Development Co. No. 1 Doles, NE NW NE section 12-19-1w, McPherson County, total depth 3,471 feet, dry and abandoned.

Phillips Petroleum Co. No. 1 Johnson, C NE SW section 8-20-19w, Pawnee County, dry and abandoned at 4,417 feet, total depth.

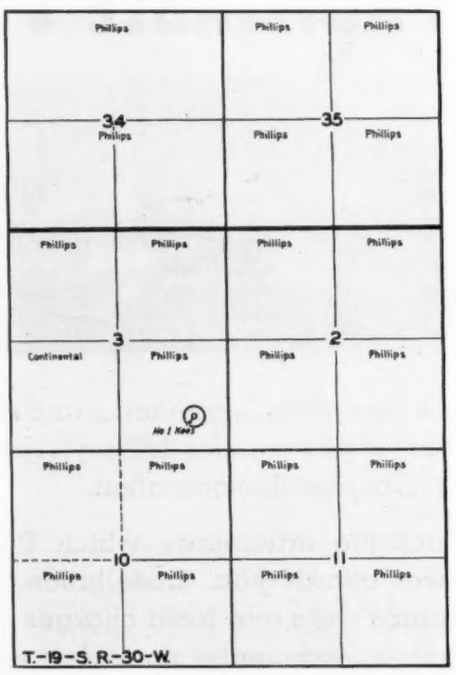
Torry & Feaster and others No. 1 Landerman, SW SW NE section 23-22-12w, Stafford County, total depth 3,689 feet, dry and abandoned.

Stanolind Oil & Gas Co. No. 1 Wadsack, SW SW NE section 4-25-11w, Stafford County, dry and abandoned at 4,089 feet, total depth.

R. J. Wixson No. 1 Newton, SE cor. section 21-20-2e, Sumner County, an old wildcat deepened from 910 feet to 3,600 feet, dry and abandoned.

Murta-Wilson and others No. 1 Stuber, SE NE NE section 27-30-5e, Cowley County, dry and abandoned at 2,915 feet, total depth.

Pryor & Lockhart and others No. 1 Brown, NE SE SE section 34-33-3e, Cowley County, total depth 3,403 feet, dry and abandoned.



Mid-Continent Map Co., Wichita

Operators were drilling ahead at Phillips Petroleum Co. No. 1 Kees, wildcat southwest of Dighton in Lane County.

Barton County

Seven wells in the Barton County fields were completed the past week. Texas Co. No. 6 Hoffman, SW NE NW section 6-16-13w, had Arbuckle lime at 3,345-61 feet, total depth, and made potential of 2,820 bbls. of oil.

T. C. Johnson No. 3 Bitter, NE NE SW section 8-16-13w, had Arbuckle lime at 3,380-88 feet, total depth. It was pumped at the rate of 21 bbls. of oil an hour naturally, was acidized, pumped 31 bbls. of oil an hour and made potential of 638 bbls. of oil, with some water.

Carter Oil Co. No. 2 Hogan, SE SW NW section 11-17-11w, pumped 140 bbls. of oil the first four hours and made potential of 742 bbls. of oil, with no water. Top of Arbuckle lime was 3,337 feet; total depth 3,365 feet.

Continental Oil Co. No. 1 Ford, SW SW NW section 10-17-13w, found Arbuckle lime at 3,341-49 feet, total depth, was treated with acid and made potential of 945 bbls. of oil.

Texas Co. No. 7 Schmidt, SW SW NW section 36-19-11w, swabbed 13 bbls. of oil and 18 bbls. of water in five hours after acidizing and shooting and was abandoned. Arbuckle lime was topped at 3,300 feet, total depth 3,328 feet.

C. B. Davis and Gulf Oil Corp. No. 11 Steckel, SE NW SE section 1-20-11w, was an abandoned location.

Stanolind Oil & Gas Co. No. 10 Fred Panning, C W half W half NW section 11-20-11w, found Arbuckle lime at 3,278 feet, was bottomed at 3,286 feet, swabbed 32 bbls. of oil an hour naturally, was acidized and swabbed 50 bbls. of oil an hour, reacidized and made potential of 1,576 bbls.

Lario Oil & Gas Co. and Atlantic Refining Co. No. 1 Meyer B, SE NE SW section 13-20-11w, was dry and abandoned in Arbuckle lime at 3,292-3,333 feet, total depth.

Completions in Barton County the preceding week were:

Stanolind Oil & Gas Co. No. 3 Morrison A, SE SW SW section 27-16-13w, total depth 3,419 feet, potential 1,985 bbls. of oil. Same company's No. 3 Zugg, NE cor. section 34-16-13w, total depth 3,377 feet, potential 44 bbls. of oil. The company's No. 8 Fred Panning, NE NE SE section 3-20-11w, made potential of 311 bbls. of oil at total depth of 3,303 feet. Shell Petroleum Corp. No. 1 Batt, SE cor. section 2-16-14w, was an abandoned location.

New work in Barton County: Shell Petroleum Corp. No. 1 Heflin, NE cor. section 3-16-14w, location; Tom Palmer No. 1 Casey, SW SW NE section 4-16-12w, moving in material; Stanolind Oil & Gas Co. No. 9 William Panning, C E half E half NE section 10-20-11w, building rig; T. C. Johnson No. 4 Bitter, SE SE NW section 8-16-13w, drilling at 698 feet; Shell Petroleum Corp. No. 2 Schneider C, NE cor. section 2-16-14w, rig.

Russell County

W. C. McBride, Inc., No. 1 Jellison, NE NE SW section 19-13-14w, Russell County, had Arbuckle lime at 3,199 feet, was bottomed at 3,221 feet, was acidized three times, pumped 230 bbls. of oil the first four hours and made potential of 1,158 bbls. of oil.

Cities Service Oil Co. No. 3 Rogg, SW SE NE section 27-14-13w, found Kansas City lime at 2,850 feet, total depth 2,970 feet, plugged back to 2,925 feet, acidized and made potential of 2,900 bbls. of oil.

W. I. Southern, Inc., No. 2 Meharg, NW NE NE section 18-15-13w, had Kansas City lime pay at 2,988-3,064 feet, was bottomed at 3,247 feet, plugged back to 3,030 feet, perforated casing, was shot and acidized and pumped 170 bbls. of oil in nine hours. It was reacidized and made potential of 675 bbls. of oil. A total of 12,000 gallons of acid was used.

Russell County completions of the preceding week: Smoky Hill Oil Corp. No. 8 Miller, SE SW NW section 31-14-13w, total depth 3,151 feet, potential 603 bbls. of oil. Texas Co. No. 2 Schnoor, NW NE SW section 31-14-13w, total depth 3,147 feet, potential 1,035 bbls. of oil, plugged back to Kansas City lime at 3,093-3,110 feet. Same company's No. 5 Brandenburg, SW SW NW section 20-14-14w, made potential of 1,197 bbls. of oil at 3,050 feet, total depth. Central Petroleum Co. No. 1 Boxberger, SW SE SE section 26-14-14w, total depth 3,010 feet, potential 3,049 bbls. of oil. National Refining Co. No. 4 Reinhardt C, SE SW SE section 25-14-15w, total depth 3,154 feet, potential 1,165 bbls. of oil. Cities Service Oil Co. and Sinclair

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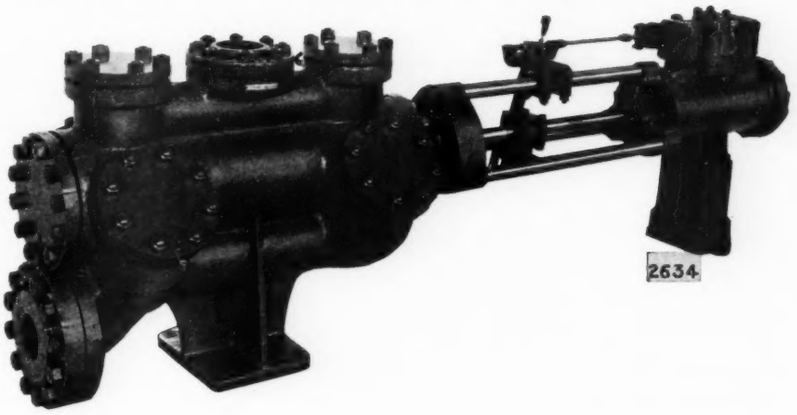

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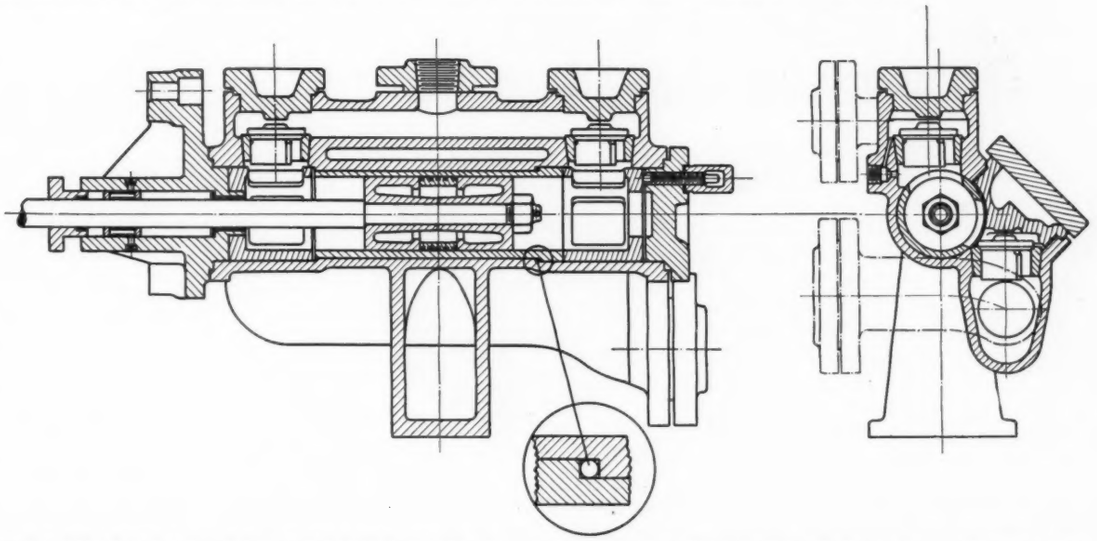

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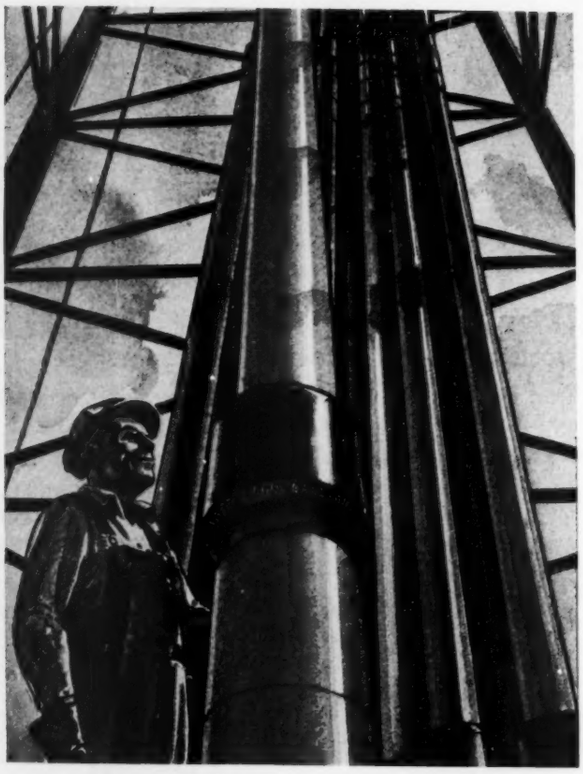

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Prairie Oil Co. No. 1 Tittle, SE SE SW section 12-15-14w, made potential of 1,867 bbls. of oil at 3,115 feet, total depth. Darby Petroleum Corp. No. 7 Michaelis, SW SW SE section 36-15-14w, total depth 3,319 feet, potential 1,243 bbls. of oil.

First reports of new activity in Russell County: Cities Service Oil Co. No. 1 Krug G, NW SW NE section 13-15-14w, building rig; Central Petroleum Co. No. 9 Foster B, SW NW NE section 3-14-15w, rig; Jones & Shelbourne and others No. 1 Kuhnle, SE SE NW section 4-15-12w, wildcat, cellar; Continental Oil Co. No. 1 Rein B, SW SW NW section 27-14-13w, cellar; Gulf Oil Corp. and others No. 1 Klugher, SE cor. section 27-15-12w, cellar; Transwestern Oil Co. No. 13 William Polycn, NE SE SW section 11-14-15w, rig; same company's No. 11 H. Polycn, NW NW SE section 10-14-15w, rig; same company's No. 4 F. Polycn, SW SW NE section 10-14-15w, location; Darby Petroleum Corp. No. 3 Dumler C, SE SW NE section 11-14-15w, rigging up standard tools; Cities Service Oil Co. No. 8 Strecker A, NW NE NE section 35-14-14w, rig; National Refining Co. No. 5 Reinhardt, SE SE NE section 19-14-14w, cellar.

Estimated Daily Production

Estimated daily production of Kansas for the week ending January 1 and for the preceding week was as follows:

	Barrels	
	Jan. 1	Dec. 25
Oxford City	1,300	1,300
Burrton	10,300	10,175
Ritz-Canton	5,125	5,200
Graber	2,675	3,175
Hollow-Nikkel	2,375	2,300
Lerado	975	1,450
Voshell	2,125	2,075
Wellington	2,800	2,675
Ellsworth County:		
Lorraine	2,675	3,360
Other pools	1,070	1,140
Rice-Barton counties:		
Bloomer	2,925	4,225
Chase	5,000	4,525
Geneseo	2,050	2,300
Raymond	1,250	1,500
Silica	9,250	14,825
Keesling	750	1,175
Hauschild	875	1,150
Miscellaneous Rice	7,570	8,780
Miscellaneous Barton	7,230	9,356
Russell County:		
Fairport	1,650	1,695
Gorham	1,610	1,615
Russell	1,510	2,030
Sullivan	6,865	6,755
North Trapp	10,365	11,320
Miscellaneous Russell	7,815	8,085
Sedgwick County:		
Valley Center	1,070	1,065
Miscellaneous	2,520	2,485
Ellis County:		
Bemis	7,275	5,850
Miscellaneous	2,905	4,180
Kingman County	670	695
Stafford County	2,462	3,405
Greenwood County	9,850	9,825
Butler County	16,500	16,480
Other fields	25,213	26,010
Total Kansas	166,600	182,175

Ellsworth County

Phillips Petroleum Co. No. 6 Patzner, NE SW NW section 30-17-10w, Bloomer pool, Ellsworth County, found Arbuckle lime at 3,280 feet, was bottomed at 3,290 feet, pumped 477 bbls. of oil in the first four hours, pumped 488 bbls. the next four hours and made potential of 2,865 bbls. of oil.

Magnolia Petroleum Co. No. 5 Andrea, SW cor. section 7-17-10w, had Kansas City lime at 3,007 feet, pay 3,040 feet, total depth 3,087 feet, was acidized, flowed 135 bbls. of oil in four hours and made potential of 361 bbls. of oil.

Work reported in Ellsworth County for the first time: Skelly Oil Co. No. 2 Moran, NE SE SE section 31-17-10w, building rig; Cities Service Oil Co. and others No. 1 Schroeder, C N half N half NW section 29-17-9w, wildcat, rig; same company's No. 10 Rolf, SW NE NE section 14-17-9w, an old well, rigging up to deepen.

Ellis County

T. M. Deal Oil & Gas Co. No. 1 Dreiling-Deal, NE NE SW section 4-12-17w, Ellis County, topped Arbuckle lime at 3,626 feet, was bottomed at 3,680 feet, plugged back to 3,672 feet, shot and acidized and made potential of 488 bbls. of oil, with a large amount of water.

An Ellis County completion of the preceding week was Cities Service Oil Co. No. 8 Johansen, SE NE NE section 22-11-17w, which made potential of 2,310 bbls. of oil from Arbuckle lime topped at 3,368 feet, total depth 3,382 feet.

New work in Ellis County: Hays & Sackrider No. 1 Windholtz, NE cor. section 2-13-16w, wildcat, shut down at 40 feet; Saco Oil Co. No. 2 Smith, SE NE NW section 14-12-16w, rig; J. J. Hall No. 1 Smith, SW SW NE section 14-12-16w, rig; Deep Rock Oil

Corp. No. 27 Baumer, SE SE NE section 27-11-17w, rig; Cities Service Oil Co. No. 5 Hall B, SW SW NW section 26-11-17w, cellar; same company's No. 2 Hall A, SE SW SW section 14-11-17w, rig; Kerlyn Oil Co. No. 2 Rumsey, SE SW SW section 23-11-17w, location; York State Oil Co. No. 3 Bemis, NE NW SW section 28-11-17w, location; Champlin Refining Co. No. 1 Glotheart, NW SW SE section 29-11-17w, rigging up rotary.

Rice County

Three wells in Rice County were completed the past week, the largest producer being Gulf Oil Corp. No. 2 Stout, SE NE NE section 6-18-10w. It topped Kansas City lime at 2,941 feet, pay 3,012 feet, total depth 3,022 feet, and flowed 250 bbls. of oil in 17 hours. It was acidized with 6,000 gallons, flowed 661 bbls. of 40.6-gravity oil in four hours and made potential of 3,282 bbls.

Continental Oil Co. No. 4 Groth, NE NW SW section 32-20-7w, had Conglomerate at 3,316 feet, total depth 3,328 feet and made potential of 2,978 bbls. of oil.

Lauck & Moncrief No. 3 Heter, NE NE SE section 1-21-8w, topped Conglomerate at 3,334 feet, was bottomed at 3,359 feet, plugged back to 3,349 feet, and made potential of 337 bbls. of oil.

Two Rice County wells were completed the preceding week. Continental Oil Co. and others No. 3 Wood, SW NW SE section 12-18-8w, made potential of 2,028 bbls. of oil at 3,235 feet, total depth.

Skelly Oil Co. No. 1 Volkland B, NW SW NW section 5-18-10w, was bottomed at 3,006 feet and made potential of 3,986 bbls. of oil. Top of Kansas City lime was 2,993 feet.

Gulf Oil Corp. No. 2 Hirsch, SE NW NE section 18-20-10w, in the Wenke area, was building rig.

Stafford County

Stanolind Oil & Gas Co. and others No. 1 Ferris, SE SE NW section 23-24-11w, Stafford County, had Simpson pay at 3,790 feet, total depth 3,805 feet, and made potential of 2,055 bbls. of oil.

Atlantic Refining Co. and Phillips Petroleum Co. No. 1 McNaghten B, NW cor. section 27-24-13w, found Arbuckle lime at 4,077 feet, was bottomed at 4,091 feet, acidized, pumped 342 bbls. of oil in the first four hours and made potential of 1,449 bbls.

Completions of the preceding week: Pure Oil Co. No. 1 Reeme, SW cor. section 27-21-12w, was dry and abandoned at 3,698 feet, total depth. Earl Wakefield and others No. 1 Snider, SE SE NW section 3-21-11w, an old well, was dry and abandoned after deepening from 3,138 feet to 3,372 feet.

Carter Oil Co. No. 1 Andress, C N half N half SE section 2-21-13w, was location for a Stafford County wildcat.

Reno County

Wilcox Oil & Gas Co. No. 2 Montford A, NE NE SW section 12-23-4w, Burrton field, Reno County, found Chat at 3,261 feet, total depth 3,434 feet, was shot and acidized and pumped and flowed 1,260 bbls. of oil daily.

Skelly Oil Co., Kimmell & Stewart No. 1 Gorham, SW SW SE section 32-25-10w, wildcat, was a location. Cities Service Oil Co. and others No. 1 Haury A, NE NE SW section 1-23-4w, an old well, was deepened from 3,363 feet to 3,375 feet, plugged back to 3,368 feet and was waiting.

McPherson County

E. B. Shawver and Shell Petroleum Corp. No. 3 Lively, SE NW NW section 21-19-1w, an old well in the Ritz-Canton field, McPherson County, was deepened from 2,975 feet to Viola lime at 3,365 feet, total depth 3,378 feet, and pumped 174 bbls. of oil and 10 bbls. of water in 24 hours, recompleted.

Completions of the preceding week in McPherson County: E. B. Shawver and others No. 1-A Kaegi, NW cor. section 21-19-1w, twin well, had Wilcox sand at 3,411 feet, total depth 3,434 feet, and made potential of 214 bbls. of oil.

Gussman and others No. 6 Drum, SW NE NE section 35-19-2w, made potential of 193 bbls. of oil from Chat topped at 2,916 feet, total depth 2,953 feet.

Gulf Oil Corp. No. 4 Stuckey, NW SE NE section 33-20-3w, had Wilcox sand at 3,411 feet, total depth 3,455 feet, and made potential of 240 bbls. of oil.

Continental Oil Co. No. 2 Chavez, SE SW NE section 20-21-1w, Graber area, found Hunton lime at 3,300 feet, total depth 3,334 feet, and made potential of 556 bbls. of oil.

New work in McPherson County: T. C. Johnson and others No. 4 Shaw, NW NE SW section 21-19-1w, rig: H. & M. Drilling Co. No. 4 Sellars, NW SW NE section 31-19-1w, location; same operator's No. 2 Peterson, SW NW SE section 24-19-3w, pits; Continental Oil Co. and others No. 6 Huxman, NE NW NW section 29-21-1w, cellar; same company's No. 7 Graber, SE NE NW section 32-21-1w, cellar.

Pawnee County

Mid-Continent Petroleum Corp. No. 1 Bixby, NW cor. section 24-20-16w, Pawnee Rock area, Pawnee County, found Arbuckle lime at 3,813 feet, total depth 3,821 feet, was acidized and made potential of 252 bbls. of oil.

The same company completed a well the previous week at No. 1 Smith, NW NW SE section 13-20-16w. It topped Arbuckle lime at 3,762 feet, was bottomed at 3,811 feet, and made potential of 284 bbls. of oil.

Rooks County

Atlantic Refining Co. No. 2 McClay, CNL SW section 12-9s-17w, Rooks County, was completed the week ending December 25. It topped Kansas City lime at 3,153 feet, total depth 3,238 feet, and made potential of 1,240 bbls. of oil.

Vickers Petroleum Co. No. 2 Luhman, NE SW SE section 11-9s-16w, Laton area, was building rig.

Rush County

Schermerhorn Oil Co. No. 3 Schroeder, C E half E half NE section 36-18-16w, Otis area, Rush County, had LaMotte sand at 3,624 feet, total depth 3,642 feet, and made potential of 477 bbls. of oil.

Woodson County

C. L. Sheedy and others No. 6 Lee, NW SW NE section 28-25-14, Woodson County, had Bartlesville sand at 1,400 feet, total depth 1,460 feet, and pumped 20 bbls. of oil in 24 hours.

Harris and others No. 1-A Weide, C SW SE section 17-25-14, was dry and abandoned in Mississippi lime at 1,530-60 feet, total depth.

In the preceding week Pure Oil Co. No. 10 Stevenson, C N half S half N half section 5-24-14, was completed as an 8-bbl. well at 1,739 feet.

C. L. Sheedy and associates No. 10 Klick, SW SW SE section 20-25-14, was rigging up machine.

(Continued on Page 81)

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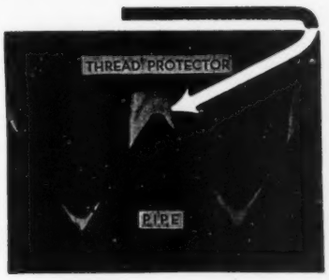

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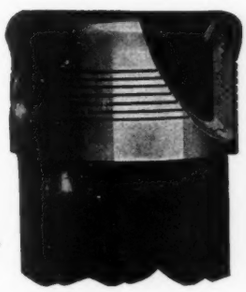

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Central West

By STAFF CORRESPONDENT

CARTER'S FAYETTE TEST IS A PRODUCER FROM BENOIST

MATTOON, Ill., Jan. 3.—The Carter Oil Co. appears to have opened a Benoist sand pool in Fayette County with its No. 1 Close, C E half SW NE section 15-8n-3e. Sand at 1,486 feet, total depth 1,508 feet, yielded 57 bbls. in six hours on the pump. The crew had trouble with the pumping equipment and the well was shut down for repairs. The same company's promising looking test, No. 1 Miller, in section 12-8n-3e, would not produce commercially at a total depth of 3,100 feet, and will be plugged back to test the Benoist sand.

Thirteen wells were completed in the Central Illinois area in the past week, of which eight were oil wells with an initial production of 2,826 bbls., and five were dry holes.

In Clinton County, Holle & Willis No. 1 Meux, C E half NE NE section 18-3n-2w, was abandoned at 1,188 feet. It had Benoist sand and a hole full of water at 1,176-88 feet.

In Wayne County, Midwest Development Co. No. 1 Madden, NE NE NW section 4-1n-7e, was dry and abandoned at 3,216 feet. It had a small showing of oil at 3,150 feet.

In Marion County, Bonnie Oil Co. No. 1 Daniels, NE NW NE section 18-2n-4e, was abandoned at 2,801 feet. It had McCloskey sand at 2,792-96 feet. Although this test was dry, the company moved 660 feet north and will drill another well.

In Wayne County, Duncan Brothers No. 3 Riggs, C W half NE SE section 27-2n-8e, total depth 3,085 feet, had a showing of oil at 3,071-81 feet. It was acidized with 1,500 gallons and swabbed oil and water. The hole filled with fluid to a height of 1,000 feet, but after it was swabbed operations were suspended. It was not officially abandoned.

In Clay County, C. H. & C. Oil Co. No. 1 Duff and others, SW NW NE section 7-3n-8e, was dry and abandoned. It had been drilled to 3,075 feet and plugged gack to 3,021 feet. Pipe set at 3,014 feet and light pay formations tested.

In Richland County, Pure Oil Co. No. 3 Anna Snyder, C W half NW NW section 3-3n-9e, flowed 509 bbls. through 2½-inch tubing, naturally, from pay at 2,960-93 feet.

Ohio Oil Co. No. 2 Arbuthnot, SW NW NE section 8-3n-9e, had pay at 2,948-63 feet and flowed 565 bbls. naturally, through casing, in 24 hours.

Pure Oil Co. No. 2 Francis Coen, C W half NE SE section 8-3n-9e, with pay at 2,950-57 feet, flowed naturally through 2½-inch tubing, producing 431 bbls. in 24 hours.

Pure Oil Co. No. 3 Francis Coen, C W half SE NE section 8-3n-9e, flowed 936 bbls. naturally, through casing, in 24 hours from pay at 2,947-62 feet.

Pure Oil Co. No. 1 Ida Shaffer, 850 feet from south and 330 feet from east lines of SE quarter section 8-3n-9e, drilled to a total depth of 3,000 feet, bailed dry. It had practically no oil showing at any depth, and was shut down, but not permanently abandoned.

Morrison & German No. 1 Montgomery, NW cor. NE NE section 17-3n-9e, had Dolomite at 2,962-64 feet and soft limestone at 2,977-87 feet, total depth 3,000 feet. It was acidized with 3,000 gallons and swabbed 573 bbls. of net oil in 30 hours. Later it flowed 80 bbls. of oil in seven hours and quit. Put on the pump, it made 140 bbls. a day.

Mammoth Producing & Refining Co. No. 1 McCauley, SW SE NW section 28-3n-9e, found pay at 3,034-41 feet and acidized it with 750 gallons. It produced 140 bbls. in 24 hours on the pump.

Bill Loving and others abandoned the location for No. 1 Blue Ridge Church lot in NE cor. SE section 26-4n-9e.

Pure Oil Co. No. 2 Correll, SW SE SE section 33-4n-9e, with pay at 2,991-3,009 feet, was acidized with 1,750 and then with 4,000 gallons. It swabbed 54 bbls. net oil in 26 hours and produced 73 bbls. the first 24 hours on the pump.

Pure Oil No. 2 J. J. Wilson, C W half SE SW section 34-4n-9e, is dry at 3,000 feet and is shut down but not permanently abandoned.

In Marion County, Adams Oil & Gas Co. No. 11 Wassen A, SW cor. NW SE NW section 28-4n-1e, is a 60-bbl. pumper at 1,403-26 feet, total depth 1,436 feet. Dill & Cochran No. 1 Logan, NE SW SE section 28-4n-1e, was dry and abandoned at 1,437 feet. It found no pay formations.

Kirk D. Holland No. 1 McIntire, CNL SE NE SW section 28-4n-1e, was shot with 5 quarts at 1,431-47 feet and pumped 32 bbls. in 24 hours.

In Wabash County, Deck & Hayes No. 1 Provident Mutual, C SE NW section 25-1s-13w, measuring from Indiana principal meridian, had the base of the Pennsylvanian at 1,765 feet; Glen Dean at 2,117 feet; Cypress at 2,274 feet; a small showing of oil in cuttings at 2,370 feet and a stain of oil at 2,404 feet. It was drilling ahead.

In Clinton County, Shell Petroleum Corp. No. 1 Criley, SW SE NW section 2-1n-1w, had Benoist sand at 1,353-78 feet, total depth 1,385 feet, and the hole filled with oil. Tubing was being run preparatory to giving the well a pumping test. Same company had rotary rigged up for No. 2 Criley, NW SE NE section 2-1n-1w.

In Jasper County, Denver Producing & Refining Co. No. 1 Ochs, NW NW NE section 33-6n-14w, measuring from Indiana principal meridian, is shut down for orders at 3,000 feet.

In Franklin County, Robert E. Markham was drilling below 2,200 feet in No. 1 Whittington, SW SE SE section 18-5s-3e.

In Jefferson County, Benedum-Trees, Inc., No. 1 Owens, NW SE SW section 23-4s-3e, was drilling at 2,400 feet. Myers Brothers made a location for No. 1 Duckworth, C E half SW NE section 33-4s-4e. Carter Oil Co. No. 1 Tate, C W half NW NE section 10-1s-2e, which was drilled to Devonian lime at 3,874 feet, and plugged back to 1,990 feet, was bailed dry and then swabbed for 5 days, recovering from 22 to 48 bbls. a day of oil and 25 to 35 bbls. of water. It will be put on the pump.

In Wayne County, the Texas Co. No. 1 Silverman, C E half SW NW section 16-3s-7e, had McClosky lime at 3,276-82 feet, saturated and porous. On a drill-stem test of 20 minutes duration, 450 feet of oil and 20 feet of mud rose in the pipe. The bottom-hole pressure was 350 pounds. Casing was being run.

In Edwards County, Leach Brothers No. 1 Lee, SW NE SE section 11-1s-10e, was a hole full of salt water from a formation at 2,977-79 feet. Six-inch casing was being underreamed.

In Clay County, Wiser Oil Co. No. 1 Irwin Estate, C N half SE NW section 12-2n-7e, recovered a bleeding core at 3,065-66 feet and was preparing for a drill-stem test. Pure Oil Co. No. 3 Clarke, NE SW SE section 8-2n-8e, drilled to 3,040 feet, set 7-inch casing at 2,999 feet and will test oolitic lime at 3,023-30 feet. Pure Oil Co. No. 1 B. Travis B, C S half NW NW section 33-3n-8e, had pays at 2,956 to 2,982 feet, total depth 2,922 feet. The hole was swabbed through casing to 500 feet off bottom, with no showing of oil. It was swabbing through 2½-inch tubing.

OHIO

FINDLAY, Ohio, Jan. 3.—The Central Ohio fields yielded four oil wells, three gas wells and three dry holes in the past week. The record is as follows:

In Belmont County, Somerset Township, Huntsman & Peters No. 1 George Ackerman, section 2, made a small pumper in the Berea at 1,951-63 feet.

In Guernsey County, Liberty Township, Kernodle and others No. 1 Joe Orahaske, section 11, found the Berea dry at 1,060-1,111 feet.

In Knox County, Union Township, Preston Oil Co. No. 1 Letha Sidle, SE quarter section 7, made 5 bbls. oil and 74,000 feet gas the first 24 hours from the Clinton sand at 2,783-2,806 feet.

In Meigs County, Lebanon Township, Ohio Fuel Gas Co. No. 1 Anna A. Moss, SW quarter section 26, was dry and abandoned at 2,077 feet.

In Muskingum County, Jackson Township, Charles Egan and others No. 1 John L. Baughman, NE quarter section 16, dry in the Berea at 849-70 feet.

In Seneca County, Pleasant Township, Goodrich and others No. 4 Frank R. Edwards, SW quarter section 31, made 30 bbls. oil from the Trenton from 1,420-1,522 feet.

In Putnam County, Blanchard Township, Fritz Oil Co. No. 1 U. Fairchilds, NW quarter section 24, produced 35 bbls. oil the first 24 hours from the Trenton lime at 1,322-60 feet.

In Stark County, Plain Township, East Ohio Gas Co. No. 2 Edward Richards, SE quarter section 15, is good for 1,014,000 feet gas from the Clinton sand at 4,564-95 feet.

In Tuscarawas County, Sandy Township, Natural Gas Co. of West Virginia No. 1 Mary E. Camp, SE quarter section 5, made 554,000 feet gas from the Clinton sand at 4,644-69 feet.

In Washington County, Barlow Township, M. Anderson No. 1 C. W. Greenless, NW quarter section 4, is good for 65,000 feet gas from the Maxon sand and the Salt sand at 1,250-1,370 feet.

WESTERN KENTUCKY

OWENSBORO, Ky., Jan. 3.—Nearly all the drilling wells in the Western Kentucky fields were shut down during the Christmas week, and in the case of a few active wells it was impossible to get to them because of the deep mud. The most important well in the field was given up as a failure, South Penn Oil Co.'s deep test in McLean County. Three dry holes comprised the week's reported completions.

Breckinridge County

Cloverport district: Galey, Fletcher and others No. 3 Cloverport Tile Co., moving in.

Daviess County

Utica district: Daugherty & Ellis No. 4 C. W. Howard, rigging up.

Hancock County

Easton district: J. C. Ellis No. 9 W. C. Smith, rigging up. Floral district: Groverly Oil & Gas Co. No. 8 Ab Baker, moving in. Indian Lake district: Galey & Fletcher No. 1 J. W. Holder, deep test, shut down at 1,906 feet.

McLean County

Island district: South Penn Oil Co. No. 1 Mrs. Rena Brown, deep test, total depth 3,817 feet, was acidized with 1,000 gallons at 2,082-84 feet. There was no improvement after acidizing and the test was plugged and abandoned.

Webster County

Seebree district: I. B. Browning and others No. 6 J. R. Ramsey, deep test, shut down at 300 feet.

Ohio County

Lyonia district: Mecca Oil Co. No. 8 J. W. Mc Daniel, dry hole. Ralph district: Snowden & Mc

Sweeney No. 30 Howard heirs, dry hole. Pellville district: H. A. Henry No. 8 Nora Chambers, moving in.

EASTERN KENTUCKY

ASHLAND, Ky., Jan. 3.—Operation reports continued light in Eastern Kentucky in the past week with only two completions, one a gas well and one an oil well.

C. E. Townsend, agent, reports the completion of No. 13 on Billie's Fork in the Big Sinking district of Lee County at a total depth of 972 feet. The well, located on the Andrew Combs land, is showing a daily production of 15 bbls. of oil.

The Kentucky-West Virginia Gas Co. completed well No. 558 on John Layne land No. 3, at the mouth of Camp Branch of Levisa Fork in Floyd County. The well was drilled to 2,687 feet, in white slate and shows a daily flow of 431,000 feet of gas.

In Lee County, Thomas Witmer is drilling at the 237-foot level in No. 7 on C. J. Tipton land in the Big Sinking district.

In Powell County the Prosperity Oil & Gas Co. is down 810 feet in No. 1 on Joe Isom land, showing good prospects.

In Pike County, Inland Gas Corp. is moving to location of No. 1 Helen Leslie on Levisa Fork.

In Knott County, Inland Gas Corp. is down 473 feet, in sand, in No. 197 on Whittaker & Waddel land.

In Floyd County, Kentucky-West Virginia Gas Co. is down 185 feet, in sand, in No. 563 H. H. Smith, and is drilling at 570 feet, in sand, in 564 Jennie Caldwell. Kentucky-West Virginia Gas Co. has reached 150 feet, in slate, in No. 565 J. I. Stepp, and is down 834 feet, in

(Continued on Page 81)

Louisiana-Arkansas Fields

(Continued from Page 67)

coring. The test made gas in large volumes, blowing nine fourbles of drill pipe into the derrick and wrecking it, before bridging over and subsiding. Operators are working to shut the well in and kill it.

Estimated Daily Production

Estimated daily gross production of all companies for the week ended January 1:

NORTH LOUISIANA

Bellevue	780
Caddo light	3,800
Caddo heavy	2,650
Converse	640
Cotton Valley heavy	325
Cotton Valley light	*3,700
De Soto and Red River	1,410
Elm Grove	365
Haynesville	3,060
Holly	100
Homer	2,450
Lisbon	9,125
Pleasant Hill	120
Rodessa	43,125
Sarepta-Carterville	300
Sligo	370
Sugar Creek	325
Urania	2,880
Zwolle	850
Total	76,375

SOUTH ARKANSAS

Buckner	350
Champagnolle	1,280
El Dorado	1,890
Lisbon	285
Miller County	195
Nevada	720
Rodessa	10,040
Schuler	12,735
Smackover light	2,025
Smackover heavy	16,376
Stephens	560
Troy	1,140
Urbana	1,200
Total	48,795

Texas side of Rodessa field, 18,920 bbls. daily.
*3,235 bbls. is distillate.

Lisbon Completions

The Lisbon field of Claiborne and Lincoln parishes, Louisiana, gained three new wells, including two of the biggest producers the field has yet seen, one of which had not been treated with the customary acid.

Sloan & Zook No. 5 Patton, SW section 1-20-5, at total depth of 5,371 feet, made an initial production of 48 bbls. per hour on a 2-inch by-pass. This potential gauge was made without acidizing, showing the well to be the best natural producer in the field to date.

In the C N half SE SE section 1-20-5, Trippett and others No. 1-B Aycock made 55 bbls. per hour on a half-inch choke, with total depth of 5,377 feet.

Atlantic Refining Co. No. 1-B Bean, located on the south edge of production in N half NW NE section 32-21-4, made 10 bbls. per hour on open tubing, at total depth of 5,210 feet and wil be acidized in an effort to increase production.

The gasser, Union Production Co. No. 1 Kilpatrick, in the Sugar Creek area, and a workover, made an estimated 2,000,000 feet of gas at total depth of 5,741 feet.

Cotton Valley

In the deep Bodcaw horizon of the Cotton Valley field of Webster Parish, the United Production Co. No. 6 Tillman, NE quarter section 28-21-10, was completed making 445 bbls. per day of white oil at a casing pressure and tubing pressure of 2,475 pounds and total depth of 8,290 feet. The test is closed in.

Schuler Field

In Arkansas, the Schuler field of Union County is relatively quiet due to shut down of some drilling rigs because of high water. Two completions in that field, brought the total of the deep Jones sand producers to seven. Lion Oil Refining Co. No. 3-B Morgan, NE NW SE section 18-18-17, made an estimated 2,400 bbls. per day on a three-quarter inch choke through perforations at 7,640-74 feet, one of the best producers in the field.

The Marine Oil Co. No. 3 Justiss, section 18-18-17, completed during the week, made 69 bbls. per hour on a quarter-inch choke through perforations at 7,520-70 feet, another good producer for the deep sand.

A total of 12 active locations in the field, calling for tests to the deep Jones sand, and one for the deep Reynolds lime, in which there is one producer, show promise of continued activity in the field for the early part of 1938.

Heavy rains in southern Arkansas, in addition to hindering operations in the Schuler field, caused virtual shutdown of production in parts of the Smackover field, located near the swollen Ouachita River.

The newly discovered Buckner field of Columbia County was made nearly inaccessible by rains, and the Standard Oil Co. of Louisiana, sole producers and major leaseholders in the field, are building roads to their discovery well in preparation for developing the area. A new outpost test will shortly be spudded in southwest of the Buckner discovery.

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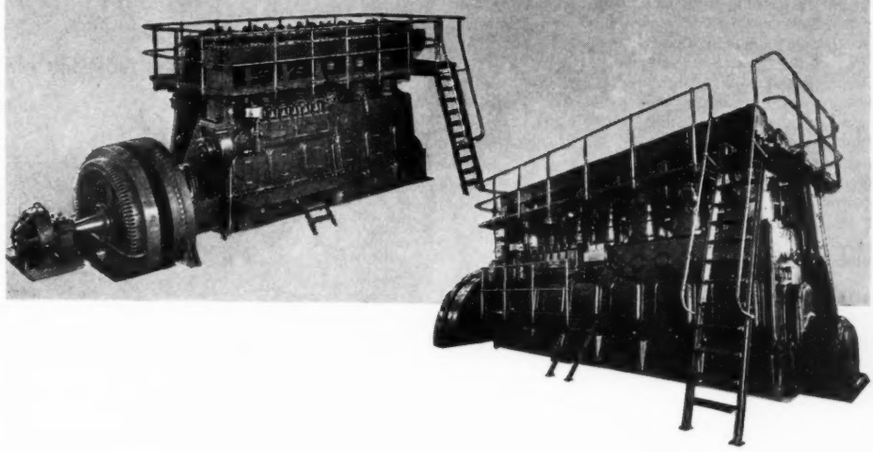

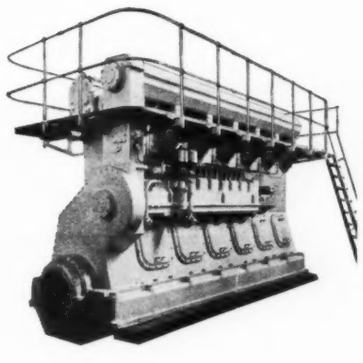

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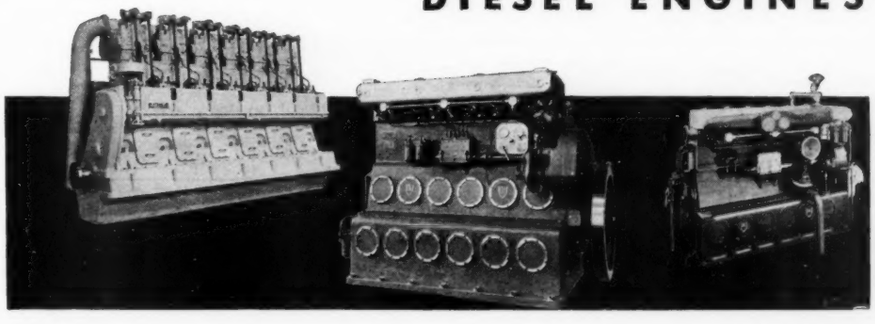


California Field Report

By
L. P. STOCKMAN

HARBOR END OF WILMINGTON DISTRICT WILL SOON BE BUSY

LOS ANGELES, Calif., Jan. 3.—California started off 1938 in excellent shape following a year during which the price of crude oil remained unchanged due in a large measure to the abnormally high demand for crude and refined oil resulting from the Sino-Japanese hostilities. The Central Committee of California Oil Producers adopted the recommendation of the U. S. Bureau of Mines that California production for the month of January, 1938, be set at 678,300 bbls. per day. This allowable is 1,000 bbls. daily below the quota set for December but is substantially below actual production due to overages in several fields. Umpire Pemberton has not yet broken down the new quota but in keeping with past practice will hold out part of the allowable to take care of new completions.

St. Helens Petroleum Co. has proved up the western end of the Montebello field of Los Angeles Basin by recompleting No. 20 Monterey, flowing 600 bbls. of 30.1 gravity oil per day from 6,353 feet. The well was completed a fortnight ago flowing 2,500 bbls. per day but a defective water shut off forced the crew to go back into the hole for remedial work. The crew effected a squeeze job and forced 14 sacks of cement back around the shoe of the 8⅝-inch water string at 6,221 feet. The well was given another production test on December 31 and was returned to production showing a cut of only 2.6 per cent. Production is coming from only 5 feet of formation and it is the intention to go back into the hole at once and open up the entire 132 feet of oil sand. It is bottomed in Upper Miocene. Union Oil Co. has acquired protective acreage and thus this new area will be developed almost exclusively by St. Helens, Union Oil Co. and Standard Oil Co.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 23		December 16			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Crude oil	.....	.....	.....	.....	129,788	.....
Diesel and gas oil	.....	.....	.....	.....	176,726	231,426
Gasoline	129,760	18,537	.....	.....	4,040,087	5,493,496
Kerosene	.....	.....	.....	.....	328,907	1,128,379
Foreign exports:						
Crude oil	618,351	88,336	189,293	27,042	16,039,459	9,263,256
Fuel oil	168,442	24,063	144,526	20,647	13,668,938	10,610,611
Diesel and gas oil	60,665	8,666	62,857	8,980	7,833,825	5,512,686
Gasoline	54,184	7,741	82,529	11,790	7,979,692	7,807,680
Kerosene	.....	.....	.....	.....	2,003,872	1,500,520
Lubricants	.....	.....	.....	.....	12,984	.....
Other unfinished oil	.....	.....	.....	.....	1,028,732	325,388
Coastwise-domestic:						
Crude oil	114,190	16,313	152,593	21,799	5,899,795	7,615,461
Fuel oil	168,950	24,136	357,022	51,003	15,354,813	10,852,784
Diesel and gas oil	50,041	7,149	41,710	5,959	2,314,452	1,114,638
Gasoline	318,026	45,432	428,729	61,390	16,074,300	169,062
Kerosene	.....	.....	.....	.....	424,255	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	65,459	9,351	.....	.....	473,728	218,603
Gasoline	.....	.....	.....	.....	151,052	285,959
Kerosene	.....	.....	.....	.....	72,750	.....
Asphalt	.....	.....	.....	.....	413,885	327,418
Lubricants	.....	.....	.....	.....	28,548	47,560
Foreign exports:						
Crude oil	149,434	21,348	.....	.....	3,462,236	3,411,755
Fuel oil	23,529	3,361	.....	.....	1,918,164	2,390,295
Diesel and gas oil	74,518	10,645	.....	.....	2,929,102	2,026,769
Gasoline	113,686	16,241	.....	.....	5,325,246	3,753,211
Kerosene	.....	.....	.....	.....	916,817	620,229
Lubricants	51,980	7,426	.....	.....	643,834	402,767
Asphalt	.....	.....	.....	.....	.....	9,147
Other unfinished oil	24,950	3,564	.....	.....	24,950	90,923
Coastwise-domestic:						
Fuel oil	148,189	21,170	78,160	11,166	6,379,356	6,342,786
Diesel and gas oil	69,147	9,892	66,126	9,447	1,527,718	646,056
Gasoline	73,480	10,497	133,152	19,022	5,917,297	5,404,946
Kerosene	25,462	3,637	26,211	3,744	457,242	203,744

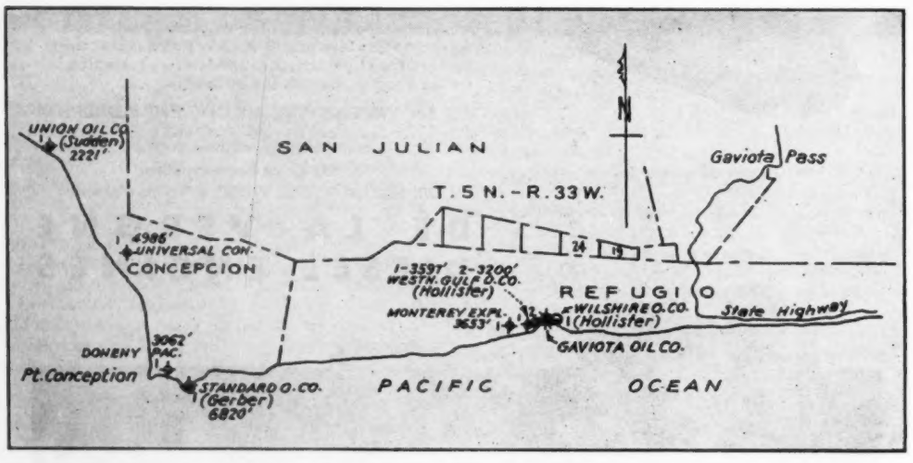
Wilmington

Five drilling wells in the Harbor section in the eastern end of the Wilmington field of Los Angeles Basin logged the top of the Ranger zone within a few hours of each other in the past week and every indication points to the probability that an aggressive race down to the pay will get under way within the next few days. In addition to wells to be drilled by independent operators, Union Pacific Railroad Co., General Petroleum Corp., Bankline Oil Co., Richfield Oil Corp. and Superior Oil Co. will start several wells immediately. Richfield Oil Corp. has taken out permits for 21 wells to be drilled in the Long Beach Harbor section. Richfield's drilling permits cover wells Nos. 4, 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, and 20 on the Pacific Dock lease, Nos. 2, 3, and 4 on the Proctor & Gamble lease, Nos. 1, 2, and 3 on the Richfield Terminal property, No. 3 Rio Grande Terminal, No. 1 Star Drilling and No. 1 Westside Community.

New Wells in Wilmington

Union Pacific Railroad Co. No. 74 was brought in flowing 675 bbls. of clean 20.8 gravity oil daily from 3,225 feet, after the hole had been plugged back from 3,338 feet because of bottom water. The company's No. 53, carried down to 3,343 feet but plugged back to 3,121 feet, was completed flowing 346 bbls. of clean 20.5 gravity oil initially. No. 52 was completed flowing 281 bbls. of relatively clean 20.6 gravity oil daily from 3,241 feet after the hole had been carried down to 3,480 feet and plugged back to the completion depth.

Kreiger Oil Co. completed No. 1 K.W., flowing 296 bbls. of 16.6 gravity oil cutting 3 per cent initially, from 3,655 feet. It is flowing through a 19/64-inch bean and shows a tubing pressure of 120 pounds and a casing pressure of 160 pounds. Selegna Drilling & Producing Co. recompleted No. 10-W, flowing 248 bbls. of very clean 29.8 gravity oil daily from 5,714 feet after finishing the hole with a 7-inch liner including 60 feet of perforated. It was carried to 5,933 feet as a deep test, but was plugged back to 5,714 feet due to water in the lower portion of the hole. Production showed a substantial decline a few days following completion and the company is making plans to rig up pumping equipment. Gus Pongratz, drilling for the Brookline Oil Co., completed No. 1 Webb Community, flowing 540 bbls. of 18.7 gravity oil per day from 3,686 feet. Bankline Oil Co., which is making preparations to inaugurate an extensive development program in the eastern end of the structure, completed No. 2 Joint Community, flowing 284 bbls. of 18.7 gravity oil daily cutting 2.5 per cent. This new producer, finished with 315 feet of 6⅝-inch liner, including 297 feet of perforated landed at 3,320 feet, was finished flowing through a 24/64-inch bean under a tubing pressure of 135 pounds and a casing pressure of 150 pounds. Neilson, Dunwoody and associates completed No. 2 Buckley, flowing 180 bbls. of 16.7 gravity oil initially through a 48/64-inch bean from 3,692 feet. Royalty Service Corp. No. 1 Heaton was brought in pumping 77 bbls. of 15.6 gravity oil cutting 2 per cent daily, from 3,611 feet.



Wilshire Oil Co. is starting a wildcat on the Hollister ranch in the Gaviota district of Santa Barbara County, close to a gas well finished a month or so ago by Gaviota Oil Co. This new work is east of dry holes drilled a few years ago by Western Gulf Oil Co. and Montgomery Exploration Co.

Greeley

Superior Oil Co. appears to have defined the eastern limits of production in the Greeley field of Kern County, as a formation test in No. 1 Krause in section 21-29-26 resulted in a recovery of 1,250 feet of salt water and mud. This test, at 7,740-7,811 feet with a tester open 20 minutes, showed the formation to be

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definitely wet. Drilling operations were resumed and the bit was last reported at 7,895 feet. It may be possible that the zone in this well may be similar to that found by Standard Oil Co. in No. 11-2 Kern County Land in section 20-29-26 where the oil sand had lensed out and in place of it the company cored brown shale. Standard's No. 11-2 Kern County Land has producing wells on three sides and is located higher structurally than the discovery well located only a few hundred feet away. This is the only indication of any marked unconformity although it is probable that Superior Oil Co. may have encountered a similar situation. Standard Oil Co. suspended drilling operations on two offsets to Superior Oil Co. No. 1 Krause a week or so ago and in view of the present status at No. 1 Krause the suspension will probably be for an indefinite period. In the meantime Standard Oil Co. has resumed drilling in No. 11-2 Kern County Land and will make a deep test with the Rio Bravo zone as its objective.

Canal-Ten Section

Shell Oil Co. is nearing the depth at which production is expected to be developed in the recently discovered Canal field of Kern County. Ohio Oil Co.'s discovery well No. 3-E Kern County Land in section 14-30-25 has been beaned back to 455 bbls. of clean 39.2 gravity oil and 290,000 feet of natural gas per day. The well is at the present time flowing through a 9/64-inch bean under a tubing pressure of 1,125 pounds and a casing pressure of 2,300 pounds. Ohio's second well is No. 4-E Kern County Land in section 13-30-25 and it was rotating ahead at 4,180 feet. In the Ten Section field, discovered by Shell Oil Co. in 1936, preparations are under way to begin drilling No. 41-B which Shell engineers located 2,303 feet east and 330 feet south of the northwest corner of the section. No. 52-B Kern County Land in section 31-30-26 was spudded. Shell's next completion in the Ten Section field is expected to be No. 27-B in section 30-30-26 as the bit has just passed the 7,800-foot level.

Union Oil Co.'s discovery well in the Rio Bravo field of Kern County is holding up with clock-like regularity as present production, 2,585 bbls. of clean 37.8 gravity oil and 4,263,000 feet of gas, is practically identical with the first full day's production after the bean had been set at 24/64-inch. Union's second well in the field is No. 2-34 Kern County Land, located northwest of the discovery well, and it is rotating ahead at 5,500 feet. East of Union's discovery well Superior Oil Co. is rotating ahead in No. 1 Wagner at 4,940 feet while on the Geissinger lease in section 32-28-25 Superior is completing preparations to begin making hole. During the past week General Petroleum Corp. completed derrick for No. 1 Wagner, C E half E half SW section 35-28-25. On the Ramsey property in the same section George F. Getty, Inc., has completed rig and will probably move in drilling equipment within the next few days. In the Bellevue area 4 miles southeast of the Greeley field, Superior Oil Co. effected a squeeze job in No. 9 Kern County Land in section 3-30-26 at 7,543-45 feet and after cleaning out the hole to 7,583 feet preparations were started to gun perforate. The company's No. 10 Kern County Land southwest of No. 9 has been abandoned in a gray sand at 8,403 feet. The logs of these two wells tend to indicate that the possible new field in this area is located north and east of No. 9 Kern County Land. Approximately 1 mile southeast of this well a joint project of Union Oil Co. and Superior Oil Co. was abandoned as a duster at 12,618 feet.

Lost Hills

In the extreme western end of the Lost Hills field, Tide Water Associated Oil Co. has completed No. 9-C Williamson in section 11-26-20, pumping 102 bbls. of 13.7 gravity oil cutting 4 per cent daily from 1,375 feet after the hole had been carried down to 1,533 feet and then plugged back to the completion depth because of bottom water.

Santa Maria Valley

Drilling operations in the Santa Maria Valley field have reached the highest point yet attained and indications point to a still further increase. Union Oil Co., Petroleum Securities, Pacific Western Oil Co. and E. H. Moore, Inc., head the development list although a number of other operators are running one or more strings of tools. A. D. Mitchell completed No. 2 Wilson in section 27-10-34, flowing 1,840 bbls. of 17.2 gravity oil through casing, and production appears to be building up. This well was finished at 4,610 feet after logging top of the Monterey at 4,264 feet and top of the Franciscan basement at 4,598 feet. E. H. Moore, Inc., No. 3 Union Sugar finished at 5,313 feet lacks sufficient fluid to make a good well as it pumps off after pumping about 50 bbls. per day. The fluid level is rather low and it may be possible that production can be increased by lowering the tubing which is now being done. No. 4 Union Sugar was a somewhat better well as it has been completed pumping 320 bbls. of 16.4 gravity oil, cutting 11 per cent daily from 4,256 feet. It was finished with 336 feet of 6⅝-inch liner including 415 feet of perforated landed at 5,526 feet and 5,350 feet of 3-inch tubing. Moore's No. 5 Union Sugar in section 30-10-34 has just passed the 6,000-foot level.

Kettleman Hills

In the Kettleman Middle dome field, Temblor Oil Co. is making a production test from 9,138 feet after running in 210 feet of 3-inch liner including 179 feet of 100-mesh screen landed at 9,137 feet. A recent formation test on this well was inconclusive although some favorable indications were noted.

Gas Fields

Tracy Drilling Co. completed its second gas well in the Rio Vista gas field of Solano County and in doing so proved up some additional acreage for development during 1938. The company's new producer was No. 2 Hanson in section 36-4-2 and it was brought in flowing 40,000,000 feet of dry gas per day from 4,380 feet after the hole had been finished with 450 feet of 4¾-inch liner including 419 feet of perforated. Drilling operations in the several dry gas fields were severely reduced during 1937. Of the 17 productive gas wells completed during the past year, 15 were in the Rio Vista gas field and 2 in the McDonald Island gas field. The limits of production at Rio Vista have not yet been determined in either the east or southeast and consequently additional drilling may be anticipated early in 1938.

Ohio Oil Co., discoverer of the Buena Vista Lake gas field in Kern County, has erected a new rig for No. 8-A Kern County Land in section 32-31-26 and while rotary drilling equipment has not yet been placed on the ground an early spud is anticipated.

San Joaquin Basin

Hogan Petroleum Co. No. 5 Bankline-Symons, in section 4-31-29, came in flowing 402 bbls. of clean 32.1 gravity oil and 250,000 feet of gas per day, proving up a couple of additional locations in the southeastern tip of the Mountain View field of Kern County. This well, bottomed at 5,500 feet and finished with 86 feet of 5¾-inch liner, including 61 feet of 100-mesh, was completed flowing through a 30/64-inch bean and it showed tubing and casing pressures of 250 pounds and 560 pounds, respectively.

In the Mount Poso field, Shell Oil Co. completed No. 22 Security pumping 102 bbls. of 16.7 gravity oil daily from 1,730 feet but the output at last reports was still showing a rather high cut. In the Fruitvale field, Western Gulf Oil Co. recompleted No. 7 Red Ribbon flowing 585 bbls. of clean 17.9 gravity oil per day from 3,540 feet. It was completed in an upper zone a few weeks ago, but was redrilled and deepened when production declined. It is flowing through a 28/64-inch bean under a pressure of 350 pounds on the tubing and 1,000 pounds on the casing. The H. & H. Oil Co. No. 1 Neff is pumping 66 bbls. of relatively clean 20.8 gravity oil per day from 3,790 feet.

In the Midway-Sunset field, the Texas Co. completed No. 29 in section 32-32-24, pumping 140 bbls. of 14.5 gravity oil, cutting 2 per cent daily, from 3,002 feet, after the hole had been carried down to 3,015 feet and plugged back because of bottom water. In section 27-31-22, Monticello Oil Co. completed No. 4, pumping 32 bbls. of clean 13.2 gravity oil per day from 1,544 feet.

Los Angeles Basin

Due to three serious blowouts in the El Segundo field operators have adopted a number of safety features which should meet with approval. In addition to the use of high-pressure heads and blowout preventers the new provisions stipulate that rubber protectors must be used on the drill pipe. Ohio Oil Co. completed No. 10 Gough in the El Segundo field flowing 880 bbls. of clean 19.9 gravity oil per day from 7,359 feet. This is the most northerly producing well in the field at present. Early in the week Sunshine Oil Co. completed No. 1 Grauman-Wallace flow-

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.
Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Creeper*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	....	.79	
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	
25-25.9	1.63	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Beiridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

ing 446 bbls. of very clean 25.1 gravity oil daily through a 1-inch bean from 7,195 feet.

In the Dominguez field Union Oil Co. completed No. 10 Carson flowing on gas-lift at the rate of 220 bbls. of 30.1 gravity oil per day from 7,636 feet after the hole had been finished with 613 feet of 5¾-inch liner including 579 feet of perforated. In the Yorba Linda section of the Richfield district Bachmann Petroleum Corp. completed No. 1 Page pumping 25 bbls. of 14.7 gravity oil per day cutting 18 per cent from a depth of 1,620 feet. East of the East Coyote field and south of the eastern tip of the Brea Olinda field, Shell Oil Co. has purchased 2,797 acres from Olinda Land Co. for $500,000 and will proceed with exploratory work. Shell took an option on this property several months ago and in drilling a series of core holes actually completed two of them as commercial producers. The last completion was core hole F which was completed flowing 1,500 bbls. per day from 2,326 feet.

Kansas Fields

(Continued from Page 75)

Saco Oil Co. No. 3 Hassenpflug, NE SW NE section 34-25-14, was dry and abandoned at 1,520 feet, total depth.

Greenwood County

Anderson & Reed No. 1-A Errikson, NW NW SE section 17-24-13, Greenwood County, was a completion the week ending Christmas Day. It was a 60-bbl. well at 1,627 feet, total depth.

Butler County

A. M. Landon and others No. 3 McCaig, SW SW SE section 13-28-6, McCaig pool, Butler County, was dry and abandoned at 2,796 feet, total depth, the week ending December 25.

Rex & Morris No. 3 DeMoss A, SE NW NW section 8-28-7, was rigging up machine. Saco Oil Co. No. 1-A Barnhill A, NW NE SW section 23-27-7, Keighley area, was rigging up machine.

Elk County

Imo Oil Co. No. 1 Pfrehm, C NW NW section 18-31-10, Elk County, was dry and abandoned at 2,245 feet, total depth, Christmas week.

Cowley County

One well was completed in Cowley County Christmas week at McKnabb No. 1 Moon, SW SW NW section 21-32-5. It had Bartlesville sand at 3,067 feet, total depth 3,082 feet, and made potential of 373 bbls. of oil.

Scott County

Atlantic Refining Co. completed another well in the Shallow Water pool of Scott County the week ending December 24 at No. 3 Dague, C NE NW section 14-20-33w. It had Mississippi lime at 4,611 feet, total depth 4,642 feet, and made potential of 143 bbls of oil.

Grant County

R. K. Wilson No. 1 Sullivan, C SW section 26-28-37w, Grant County, produced 14,000,000 feet of gas and was completed at 2,722 feet, total depth, Christmas week. Another completion of that week was Panhandle Eastern Pipe Line Co. No. 1 Stevenson, C section 24-29-36w, which produced 4,500,000 feet of gas at 2,800 feet, total depth.

Stevens County

Panhandle Eastern Pipe Line Co. No. 1-9 Parsons, C NE section 9-31-37w, Hugoton field, Stevens County, produced 10,000,000 feet of gas at 2,773 feet, total depth, and was completed Christmas week.

Same company's No. 1 Spikes, C E half E half NW section 20-31-38w, was rigging up rotary.

Eastern Kentucky Fields

(Continued from Page 77)

sand, in No. 566 Samuel Dillion on Ivy Creek of Levisa Fork. The same firm is idle at No. 567 M. Slone and M. D. Slone and is also idle at No. 5,233 John F. Burchett on Cow Creek. The Inland Gas Co. has reached the 473-foot level, in sand, in No. 197 J. C. Hopkins on Stratton Branch of Levisa Fork.

In Martin County, Kentucky-West Virginia Gas Co. is down 1,225 feet, in Maxon sand, in No. 560 Melissa Ward on Rockhouse Fork of Rockcastle, and is idle at No. 5,232 C. W. Preece on Coldwater Fork and is idle at No. 5,235 on same farm.

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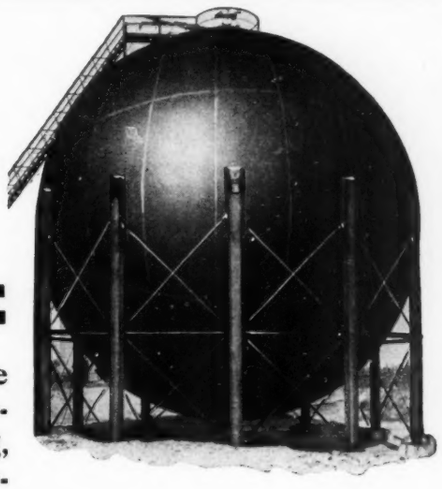

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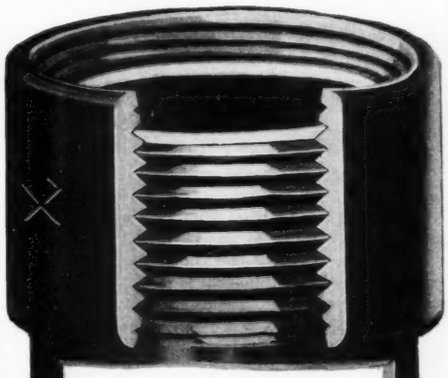

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POMONA TURBINE PUMPS

Oklahoma Operations

By
DAL DALRYMPLE

OPEN PAYNE COUNTY POOL; NEW GAS ZONE FOR LOVELL

The second day of the New Year provided Oklahoma oil men with their biggest thrill of recent months when a wildcat well came in as a gusher to open a new oil pool in southwestern Payne County. The Mid-Continent Petroleum Corp. and associates No. 1 Ramsey, SW SW NW section 18-18-2e, southwest of Stillwater, flowed 935 bbls. of 43.2-gravity oil in two hours Sunday morning and was shut in for tankage and connections.

First Wilcox sand was topped at 4,768 feet, and the hole was bottomed at 4,796 feet. The well was bailed down about 500 feet, when it began heading, cleaned itself and flowed 450 bbls. of oil the first hour and 485 bbls. the second hour. The map shows location of the community block, in which Carter Oil Co., Sinclair Prairie Oil Co. and Transwestern Oil Co. are interested with the operators, and adjoining lease holders.

Testing Coal Wildcat

Carter Oil Co. and others No. 1 Claytor, C W half NW SW section 27-2n-9, wildcat in the Centrahoma area of Coal County, continued to test after flowing 281 bbls. of oil gross in 16 hours following acid treatment. It was plugged back from 6,722 feet to 6,480 feet.

Sinclair Prairie Oil Co. No. 1 Knecht, NW SE NE section 28-18-4w, opened a new gas horizon in the Lovell area of western Logan County. It produced 22,900,000 feet of gas from Hoover sand at 3,490-3,515 feet after plugging back from 4,240 feet. This is thought to be the shallowest production in Logan County.

The 1938 wildcat exploration campaign was started in Cleveland County, where H. R. Hollenback and associates began work at No. 1 Wilson, NW NW SE section 36-10-1e, on a farmout from Carter Oil Co., east of the Moore field and on a seismograph high.

In the Cement area, Caddo County, Ray Stephens has staked location for No. 3 Griffin, SW NE SE section 27-6-10w, northwest side of the field. The No. 2 Griffin was installing separator preparatory to testing a showing in sand at 4,346 feet.

Wildcat Completions

The only wildcat completion registered in Oklahoma the last week of the past year was at Fortuna Oil Co. No. 1-A Harris, SW SW NE section 14-25-1e, Kay County, which was temporarily abandoned at 383 feet, total depth. Wildcat completions of the previous week were as follows:

Ed Parson and others No. 1 Blake, C SW NW section 22-2n-8w, Stephens County, had Deese formation at 4,946-86 feet, was bottomed at 6,002 feet, plugged back to 5,020 feet, and pumped 40 bbls. of 28.5-gravity oil daily.

Phillips Petroleum Co. No. 1 Beck, SE SW SW section 6-1n-9, Coal County wildcat, was dry and abandoned at 5,643 feet, total depth.

W. B. Osborn and others No. 1-A Harris, NW cor. section 11-6-5, Seminole County, was a wildcat failure at 3,001 feet, total depth.

Phillips Petroleum Co. No. 1 Gilcrease, NW NW SE section 16-7-12, Pittsburg County, was dry and abandoned at 5,760 feet, total depth.

Oklahoma District Oil Co. No. 1 Beeler, NE NE SW section 7-7-14, another Pittsburg County wildcat, was dry and abandoned at 6,200 feet, total depth.

C. L. Carlock and others No. 1 Young, C N half NW NW section 23-15-5, Lincoln County, was abandoned at 4,512 feet, total depth. It at one time looked like a producer in upper formations.

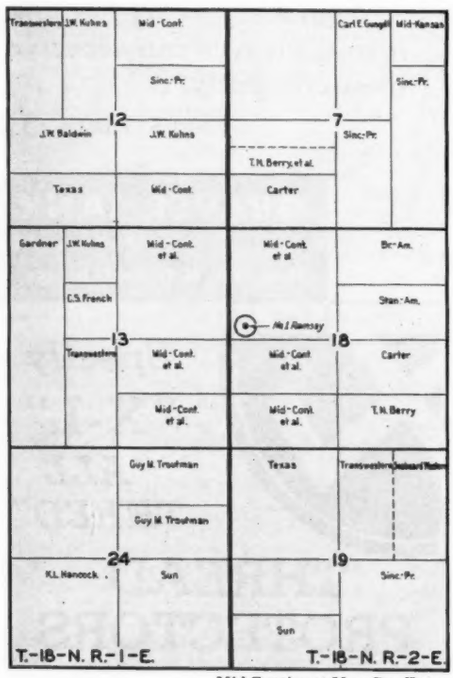
Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Bennett, NE SW NE section 31-19-4, wildcat in Payne County, was dry and abandoned at total depth of 4,258 feet.

E. W. Jones, Inc., and others No. 1 Dorsett, SE SW NW section 25-26-1w, Kay County wildcat, was dry and abandoned at 4,267 feet, total depth.

Oklahoma County

Two wells were completed in the Oklahoma City field, Oklahoma County, the past week. Big Chief Drilling Co. No. 2 Park Place, NE SE NE section 35-12-3w, had pay at 6,330-6,400 feet, total depth, and flowed 925 bbls. of oil on gas lift in 24 hours.

Southwest Petroleum Co. No. 1 Jackson, SE SE NE section 35-12-3w, had Hammerhandle sand at 6,240 feet and Johnson sand 6,380 feet, total depth 6,425 feet, and flowed 421 bbls. of oil through tubing and on gas lift in 24 hours.



Mid-Continent Map Co., Tulsa

A new Wilcox sand pool was opened by Mid-Continent Petroleum Corp. and associates in Payne County.

Another recent Oklahoma City completion was Clark and others No. 1 Bollman, SW cor. section 14-12-3w. It produced 173 bbls. of oil from Simpson sand at total depth of 6,491 feet.

New work in Oklahoma County: Big Chief Drilling Co. No. 1 Reed, NW NE NE section 35-12-3w, rig; Southwest Petroleum Co. No. 1 Ward, NE cor. section 35-12-3w, rig; Clark & Co. No 1 Owenby, NW SE SW section 15-12-3w, cellar.

Pontotoc County

J. D. Campbell No. 1 Scrivner, SW SE SW section 15-2n-7, Fitts district, Pontotoc County, was dry and abandoned at 1,473 feet, total depth.

H. L. Blackstock No. 1-B Moody, NE cor. section 27-2n-7, an old well, was deepened from 1,460 feet to 2,650 feet, shot, flowed 132 bbls. of oil in 24 hours and was recompleted.

Carter Oil Co. No. 9 Smith, NW NW SW section 28-2n-7, an old well, was plugged back from 3,534 feet to 2,885 feet, shot and flowed 76 bbls. of oil in 18 hours, recompleted.

Magnolia Petroleum Co. No. 5 Harden, SE NW NE section 30-2n-7, an old well, was dry and abandoned after plugging back from 3,800 feet to 1,320 feet.

Westheimer & Naustadt No. 2 Factor, NW SE SW section 25-5-7, was completed as a 3,000,000-foot gas well at 2,258 feet, total depth.

Magnolia Petroleum Co. No. 2 Mayhue, SW SE NE section 20-2n-6, a completion of the preceding week, was dry and abandoned at 4,278 feet, total depth.

W. A. Delaney No. 1 Wheeler, SW NW SW section 30-5-8, was dry and abandoned at 2,515 feet, total depth.

Magnolia Petroleum Co. No. 3 Mayhue, NE SE SE section 20-2n-6, was building rig. Kerlyn Oil Co. No. 1 Nix, C E half NW SE section 1-1n-7, was a rig.

Noble County

Seaboard Western Oil Co. and others No. 1 Guthrie, NW NW NE section 6-20-2w, an old Noble County well, was deepened from 5,453 feet to Wilcox sand 5,458 feet, total depth 5,477 feet, and flowed 141 bbls. of oil in 24 hours through casing.

Two wells recently were completed in the Billings pool. Continental Oil Co. No. 13 Conway, NW SE SW section 16-23-2w, had Wilcox sand at 4,270 feet, total depth 4,297 feet, and made potential of 3,672 bbls. of oil.

Same company's No. 14 Conway, SE SW SW section 16-23-2w, made potential of 3,134 bbls. of oil from Wilcox sand topped at 4,295 feet, total depth 4,297 feet.

Logan County

Mid-Continent Petroleum Corp. No. 3 Bulling, NW NE NE section 5-19-2w, Logan County, topped Dolomite at 5,040 feet and was dry and abandoned at 5,107 feet, total depth.

Lincoln County

Helmerich & Payne No. 2 Fitch, SE SW NE section 15-14-6, Lincoln County, had Prue sand at 2,910-3,002 feet, total depth 3,011 feet, was shot and flowed 90 bbls. of oil daily through tubing. Gravity of the oil was 46 degrees.

Other recent completions in Lincoln County: Wilcox Oil & Gas Co. No. 6 Sac & Fox, NW NE SW section 15-14-6, topped Prue sand at 2,912 feet, total depth 2,987 feet, and made potential of 628 bbls. of oil.

Gulf Oil Corp. No. 3 Lee, NW SW SW section 36-15-2e, had Simpson formation at 5,096 feet, total depth 5,270 feet, plugged back to 5,135 feet, and was completed as a 42-bbl. well.

Creek County

Kissler Oil Co. No. 1-B Franklin, C N half NW NE section 29-18-9, Creek County, was completed as a 12-bbl. well at 2,950 feet, total depth.

Shaw, Doak & Hughes No. 1 Anthis, NW NE NW section 25-17-7, had Red Fork sand at 2,805 feet, total depth 3,834 feet, and produced 3,000,000 feet of gas.

W. C. Norris, Inc., No. 1 Bruce, SE NE NE section 22-17-9, a completion of the preceding week, was dry and abandoned at 3,293 feet.

New work in Creek County: Shaw, Doak & Hughes No. 2 Anthis, NE NE NW section 25-17-7, rigging up machine; Bert Swift No. 1 Nantz, NE NW SW section 1-18-8, drilling at 350 feet; F. O. Akin No. 2 King, SE NE SW section 35-18-8, an old well, rigging up machine to deepen; Curtis Oil Co. No. 1 Carr, SE NW NE section 26-18-9, spudded.

Pottawatomie County

Producers, Inc., No. 5 Cardwell, NE SW NW section 15-7-4, St. Louis area, Pottawatomie County, had sand at 3,501 feet, Hunton lime 3,696 feet, total depth 3,969

feet in shale, was acidized and flowed 20 bbls. of oil daily through tubing.

Other wells completed the preceding week in Pottawatomie County: Magnolia Petroleum Co. No. 4 Caudle, NW NW SW section 13-7-4, total depth 3,163 feet, potential 124 bbls. of oil.

Denver Producing & Refining Co. No. 3-A Risenhoover, SE SE NE section 14-7-4, total depth 3,193 feet, produced 40 bbls. of oil daily.

Same company's No. 4-A Risenhoover, NE SE NE section 14-7-4, produced 30 bbls. of oil daily at 3,147 feet, total depth.

Two new tests were reported in Pottawatomie County the past week. H. V. Woodson and others No. 1 Le Clair, NW NW NE section 23-7-4, was a rig. Mid-Continent Petroleum Corp. No. 1 McClellan, SW SW NW section 19-11-5, was a rig.

Okmulgee County

John Penrod No. 3-A Doyle, C N half N half SW section 15-13-14, Okmulgee County, had sand at 1,740 feet, total depth 1,770 feet, and pumped 15 bbls. of oil in 24 hours.

F. D. Misener No. 6 James, NW SE SW section 14-14-14, had sand at 1,740 feet, total depth 1,760 feet, and pumped 2 bbls. of oil daily.

J. C. McClellan No. 1-A Bean, NE SE NW section 14-12-12, was dry and abandoned at 1,352 feet, total depth.

J. S. Wise and others No. 1 Fife, SE NE NE section 15-14-12, was dry and abandoned at 2,823 feet, total depth.

Oklahoma Oil Corp. No. 1 Miller, NE SE SE section 6-15-14, was dry and abandoned at 1,847 feet, total depth.

The following new work in Okmulgee County was reported: John Cable and others No. 1-A Grayson, SE SE SW section 16-13-14, rigging up machine; Charles Shock and others No. 1-B Hawkins, C W half NW NE section 16-14-11, shut down at 1,000 feet; H. C. Detrick and others No. 1 McCann, NW SE SW section 33-14-11, location; Hennessy and others No. 8 Rowe, C E half SW section 8-15-14, location.

Muskogee County

Robinson Oil Co. No. 4 Brown, SW SE SE section 18-13-16, Muskogee County, had sand at 2,125 feet, total depth 2,156 feet, and flowed 32 bbls. of oil in 24 hours.

Claude W. Garrett No. 1 Skidmore, NE NE SW section 13-13-15, was dry and abandoned at 2,104 feet, total depth.

Taylor & Geiger No. 2-B Barnett, NW NW NE section 8-15-15, was a location.

Tulsa County

A. C. Saint and others No. 1-A Wadsworth, SW NE NE section 31-17-13, Bixby area, Tulsa County, was dry and abandoned at 1,869 feet.

Johnson Oil Refining Co. No. 2 Brazwell, SE SW SW section 31-19-10, had Red Fork sand at 2,275 feet, total depth 2,293 feet, and pumped 5 bbls. of oil and 200 bbls. of water daily.

J. B. Gilbert and others No. 1 Steil, NE SW SW section 10-19-10, a completion of the preceding week, was dry and abandoned at 918 feet, total depth.

Bert and others No. 1 Morman, SE NE NW section 15-16-12, was rigging up machine. May and others No. 1-A Call, SE SE SW section 30-17-14, was drilling at 980 feet.

Hughes County

C. E. Davis No. 1-A Williams, NE SE SE section 36-9-8, Hughes County, had first Wilcox sand at 4,290 feet, second sand 4,329 feet, and was dry and abandoned at 4,349 feet, total depth.

Texas Co. No. 1-A Meadors, C N half NE NE section 8-8-10, a completion of the preceding week, was an 18-bbl. well at 3,195 feet, total depth.

Okfuskee County

Wells & Siler No. 3 Barnard, SW SW NW section 34-11-11, Okfuskee County, was dry and abandoned at 1,843 feet, total depth.

Grimes & Neil No. 2 Ryan, NW cor. section 36-11-9, was dry and abandoned at 1,543 feet, total depth.

Broswood Oil Co. No. 1 Lehman, NW SW NW section 21-13-10, Okfuskee County wildcat, was building rig. Grimes & Neil No. 3 Alexander, NW NE NE section 35-11-9, was drilling at 90 feet.

Osage County

Midco Oil Corp. No. 27 Osage, SE NW SE section 18-22-10, Osage County, topped Mississippi lime at 1,992 feet, total depth 2,018 feet, was shot and pumped 10 bbls. of oil and 11 bbls. water.

Peters Petroleum Corp. and Norbla Oil Co. No. 3 Osage, NW NW NE section 33-22-11, was dry and abandoned at 1,743 feet, total depth.

Indian Territory Illuminating Oil Co. No. 393 Osage, NE SE SE section 29-23-9, an old well, was deepened from 911 feet to 1,757 feet, acidized, and produced 2,000,000 feet of gas.

Other recent Osage County completions: Titus Oil & Investment Co. No. 1 Osage, SE SW SE section 5-25-6, had Bartlesville sand at 2,840 feet, total depth 2,923 feet, plugged back to 2,880 feet and produced 20 bbls. of oil daily.

C. T. Matthews No. 7 Osage, NE NW NE section 10-23-8, was dry and abandoned at 1,608 feet, total depth. Norbla Oil Co. and Carter Oil Co. No. 1 Osage, NW NE SE section 2-25-6, was dry and abandoned at 2,858 feet, total depth. Link Oil Co No. 2 Osage, NW NW NE NE section 34-25-9, was dry and abandoned at 2,180 feet, total depth; Shell Petroleum Corp. No. 3 Osage, C W half W half NE section 2-26-7, was dry and abandoned at 2,598 feet, total depth.

New work in Osage County: Indian Territory Illuminating Oil Co. No. 187 Osage, NW SE SW section 31-25-10, an old well, rigging up to deepen; E. A. Babcock No. 2-A Osage, NW SE NE section 14-22-10, location; Harland No. 33 Osage, C S half NW NW section 25-24-11, an old well, rigging up to deepen.

Estimated Daily Production

Estimated daily production of Oklahoma for the week ending January 1, 1938, and for the preceding week was as follows:

	Barrels	
	Jan. 1	Dec. 25
Allen	5,975	5,750
Billings	7,500	7,900
Burbank	7,875	7,850
South Burbank	13,900	13,600
Balance Osage	18,500	18,300
Blackwell district	4,900	4,925
Bristow-Slick	7,000	7,025
Chandler	2,650	2,600
Crescent	7,750	8,375
Cromwell	3,250	3,275
Cushing-Shamrock	10,800	10,750
Duncan district	4,250	3,750
Edmond	10,250	11,500
Fish	4,600	4,500
Fitts	73,300	75,250
Jesse	3,400	3,350
Graham	4,300	4,225
Gray	1,150	1,125
Healdton	9,500	9,925
Hewitt	4,175	4,100
Holdenville	850	925
Keokuk	6,700	7,500
Konawa	1,525	1,450
Lucien	12,250	12,000
Moore	9,750	9,500
Oklahoma City	109,550	123,900
Olympic	6,975	7,125
Polo	700	675
Sasakwa and townsite	2,900	2,425
Sholem-Alechem	3,000	3,100
Seminole County:		
Bowlegs	10,750	10,500
Carr City	5,150	4,650
Earlsboro	5,575	5,900
South Earlsboro	675	450
East Earlsboro	6,425	6,675
Little River	9,075	9,175
East Little River	1,050	1,000
Maud	600	650
Mission	1,825	1,875
Seminole	8,750	8,800
East Seminole	1,725	1,750
Searight	3,850	3,950
Total Seminole	55,450	55,375
St. Louis-Pearson	18,475	18,725
Tatums	6,500	6,000
Tonkawa-Garber-Thomas	4,500	4,450
Wewoka	2,675	2,700
Yale-Jennings	3,900	3,900
Other pools	82,950	82,475
Total Oklahoma	533,675	550,300

Payne County

Home Gas Co. No. 1 Blanken, NE cor. section 32-19-5, an old Payne County well, was deepened from 3,647 feet to 3,800 feet, and was dry and abandoned.

Deep Rock Oil Corp. No. 1-A Waltman, C NE NW section 26-18-3e, was completed the preceding week at 1,515 feet, total depth. It produced 15,000,000 feet of gas from sand topped at 1,496 feet.

Seminole County

No wells were completed in Seminole County the past week, but completions of the preceding week were as follows:

Rogers Oil & Gas Co. No. 1 Barkus, NW SW NE section 16-9-7, temporarily abandoned at 4,212 feet, total depth.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 2 Davis, SE NE NE section 35-10-7, dry and abandoned at 3,694 feet, total depth.

Pure Oil Co. No. 5 Reed, SE SW SE section 14-8-6, an old well, was deepened from 4,220 feet to 4,240 feet, and produced 168 bbls. of oil. Indian Territory Illuminating Oil Co. No. 3 Livingston, NW SE NW section 15-8-6, an old well, was deepened from 4,164 feet to 4,197 feet and produced 133 bbls. of oil. Carter Oil Co. No. 3 Lukes, NW NE NE section 27-9-6, was recompleted as a 10-bbl. well after deepening from 4,198 feet to 4,304 feet.

New operations in Seminole County: Earl Evans and others No. 1 Swan, SW NW SE section 33-7-6, had spudded; Wood Oil Co. No. 1 Maxey, NW SW NW section 1-8-6, was a location.

Sinclair Prairie Oil Co. No. 1 Wilson, SW cor. section 8-9-6, reported as a new operation for the first time, was an old well plugged back from 4,378 feet to 2,795 feet and abandoned.

Gulf Oil Corp. No. 3 Peter, SW SE NE section 23-5-7, Allen pool, also a first report and completion, an old 10-bbl. well at 4,262 feet, total depth, was acidized and shot and pumped 133 bbls. of oil net in 24 hours.

Garvin County

Cox & Hamon No. 3 Tussy, NE SE SE section 31-1n-3w, Tussy pool, Garvin County, was completed the week ending Christmas day. It was dry and abandoned at 3,606 feet, total depth.

Carter County

Magnolia Petroleum Co. No. 77 Richards, SW SW SE section 31-3s-3w, Carter County, pumped 36 bbls. of 30-gravity oil from Healdton sand after plugging back from 1,157 feet, total depth, to 1,147 feet.

K.O.T. Oil Co. No. 1 Ramsey, SW SW NE section 36-4s-2w, an old well, was cleaned out at 2,350 feet, total depth, and pumped 30 bbls. of oil daily, an increase of 20 bbls.

Charles Clowe No. 1 Hefner, NW SE SW section 4-1s-3w, a completion of the preceding week, produced 6,000,000 feet of gas at 2,488 feet, total depth.

Maxine Oil Co. No. 5 Eaves, NE NW SE section 5-2s-2w, was completed as a 20-bbl. well at 1,540 feet, total depth.

Ray Kyle and others No. 4 Johnson-McGill, NE SW SE SW section 17-4s-2w, was completed as an 18-bbl. well at 1,648 feet, total depth.

Jefferson County

Three new wells were completed the past week in the southern Jefferson County pools. Bridwell Oil Co. No. 13 Seay, NW NW NE section 10-7s-5w, had sand at 1,098 feet, total depth 1,109 feet, and pumped 10 bbls. of 31-gravity oil daily.

Same company's No. 11 Seay, NE NW NE section 10-7s-5w, was completed as a 46-bbl. well at 1,084 feet, total depth, producing from sand topped at 1,066 feet.

Rips & Ungerman No. 1-A Penniston, NE NE SW section 16-7s-5w, was bottomed at 804 feet, plugged back to 787 feet, and had initial production of 25 bbls. of oil.

Two wells were completed in this area the previous week. Farlyn Oil Co. No. 62 Seay, NE NE NE SW section 3-7s-5w, was a 20-bbl. well at 1,261 feet, total depth. Bridwell Oil Co. No. 10 Seay, NE NW NW SE section 10-7s-5w, was an 80-bbl. well at 1,242 feet, total depth.

Bridwell Oil Co. No. 16 Seay NW NW NE section 10-7s-5w, had erected derrick.

Stephens County

Carl Carter No. 5 Warden A, NW NE SW NE section 34-1s-5w, Stephens County, was deepened from 719 feet to sand at 1,016-20 feet, totaly depth, and pumped 6 bbls. of 35-gravity oil daily.

A completion of the preceding week in Stephens County was Carl Keister No. 1-B Jones, SE SW SW SE section 23-1s-5w. It was a 6-bbl. well at 620 feet, total depth.

Carl Carter No. 2 Warden B, SW NE NW section 34-1s-5w, was drilling at 727 feet. Gulf Oil Corp. No. 13-A Sims, NW SE SW section 13-2s-4w, was drilling at 500 feet.

Tillman County

M. G. Martin No. 1 Parris, NW NW SW section 3-3s-19w, wildcat in Tillman County, had dug cellar. It was to be a 3,500-foot test.

Kay County

Clark Nye and associates No. 30-A McCullough, NW NW SW SE section 5-28-1w, Kay County, had Wilcox

(Continued on Page 91)

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West and North Texas

By MITCHELL TUCKER

OPEN PECOS COUNTY POOL IN 1,900, 2,000-FOOT HORIZONS

FORT WORTH, Tex., Jan. 3.—A new oil strike in northern Pecos County, 42 oil well completions, five new wildcat locations, and important extensions to producing fields featured an active week in the West Texas district.

Just south of the Pecos River in the H.&G.N. Survey, Hoss & Downey No. 1 Cities Service-Cordez, shallow wildcat test of the area, opened a new producing field when it found saturated sands as 1,974-88 feet and at 1,944-2,044 feet. The well is flowing by heads through casing at the rate of about 150 bbls. daily. It is about 1 mile northwest of C. C. Dorr and others No. 1 Payton in section 99 of the same survey, recently completed for 39 bbls. of oil daily.

Pecos County's deep Ordovician wildcat being drilled by Magnolia Petroleum Co. on the McKee lands in the Imperial area of northern Pecos County, resumed operations after an extended shutdown while curing titles. Drilling is progressing below 5,045 feet in lime and shale, after topping the Simpson member very high when compared to nearby Ordovician wells.

Adding further to the prevailing belief that the Denver field of southern Yoakum County and the Wasson field of northwestern Gaines County will prove to be on one continuous structure, American Liberty Oil Co. No. 1 N. W. Willard began flowing by heads after topping the oil saturation at 4,910 feet, and tubing is now being run for testing. This well is in the SW cor. section 38, Block AX, Public School lands, and is 1½ miles northeast from the Wasson field, and about 2 miles southeast of the Denver field's outpost.

In the rapidly developing Yoakum area, the Bohago Oil Corp. and Bond Oil Corp. are rigging up for a mile outpost south of their discovery well completed several months ago. The new test, No. 1 West, is to be in section 607, Block D, John H. Gibson Survey.

Attention is directed to a wildcat test in the extreme northwestern corner of Yoakum County as it cored some saturated and porous lime last week. The Lou Stogner and Gene Pipkin No. 1 J. L. Brock, D. Gibson Survey, has cemented 7-inch casing at 5,140 feet after finding the oil showings in lime from 5,204-66 feet.

As a third producer in the Slaughter field of southwestern Hockley County, and a 2-mile extension from the discovery well, the Texas Co. No. 2 Bob Slaughter, southeast corner of Labour 92, League 37, drilled the Permian from 4,890-4,970 feet. On initial production tests it swabbed 77 bbls. of oil in six hours. Total 24-hour production was 175 bbls. by swabbing and natural flow.

Ector County

In Ector County, Broderick & Calvert completed the Harper pool's largest producer last week, No. 4-C Cowden, T.&P. Survey, which flowed 2,416 bbls. on potential test, with the last three hours' flow pinched in as storage neared capacity.

M. L. Benedum has abandoned his deep test on the Pecos County ranch of his associate, Joe C. Trees, H.& G.N. Survey in the northwestern part of the county, after finding only salt water in the Delaware sand, drilled from 4,862-4,995 feet.

NORTH TEXAS

In North Texas the deep lime development at K.M.A. continues to head all other interests. Total producers in this field were raised to 89, following the completion of six new oil wells last week, having an aggregate initial potential of 4,210 bbls. There are now 37 locations and rigs building in the field, and 59 drilling wells. Of this number, 32 wells are on top of the sand, either moving in spudder or preparing to drill and complete.

As has been characteristic of the K.M.A. development thus far, several very important outposts are nearing the testing stage, and any one of them could add several hundred more acres to the huge proven area already established. Perhaps most important of the semiwildcat outposts is the Geier Brothers and F. B. Jackson, Jr., No. 1 George Ancel, a 7-mile extension test westward from production in the southern portion of the C. Roberts Survey adjoining the Archer County line. Drilling is now below 3,600 feet, and operators expect to top the producing lime within the next 100 feet.

As the farthest northwest test in the trend toward Electra, and 5 miles northwest of nearest production, Rathke Oil Co. No. 1 Tom L. Burnett, Block 4, H.&T.B. Survey, is drilling at 1,750 feet. This semiwildcat well is about 15 miles due north of the Geier Brothers and others well on the Archer County line. Should these two wells prove productive, the early predictions that K.M.A. is a "second East Texas" will be partially confirmed in so far as area is concerned.

The territory that appears to lie within the proven portion of the field continues to grow so rapidly that figures have to be revised upward weekly. King Oil Co. gave the field a mile and one-half extension northward last week as they drilled oil sand from 3,761-94 feet and began flowing by heads, in their No. 1 J. J. Waggoner, M. A. Willis Survey. Production string has been cemented prior to testing.

Grayson County's bid for entering the group of important North Texas oil-producing counties was discounted at the close of the year. During the week the second test in the North Whitesboro area was abandoned as dry at a total depth of 3,527 feet. Denver Producing & Refining Co. No. 1 E. B. Moore missed the 2,400-foot level found in their No. 1 Cannon, one-half mile to the north, and drilled deeper on to its abandoned depth in search of other pay levels without success. At least one more test is to be made of the Cannon sand soon, this time about 2 miles due west into Cooke County, as Whitefield, Pearson & Grimes No. 1 W. G. Dozier is planning to rig up soon.

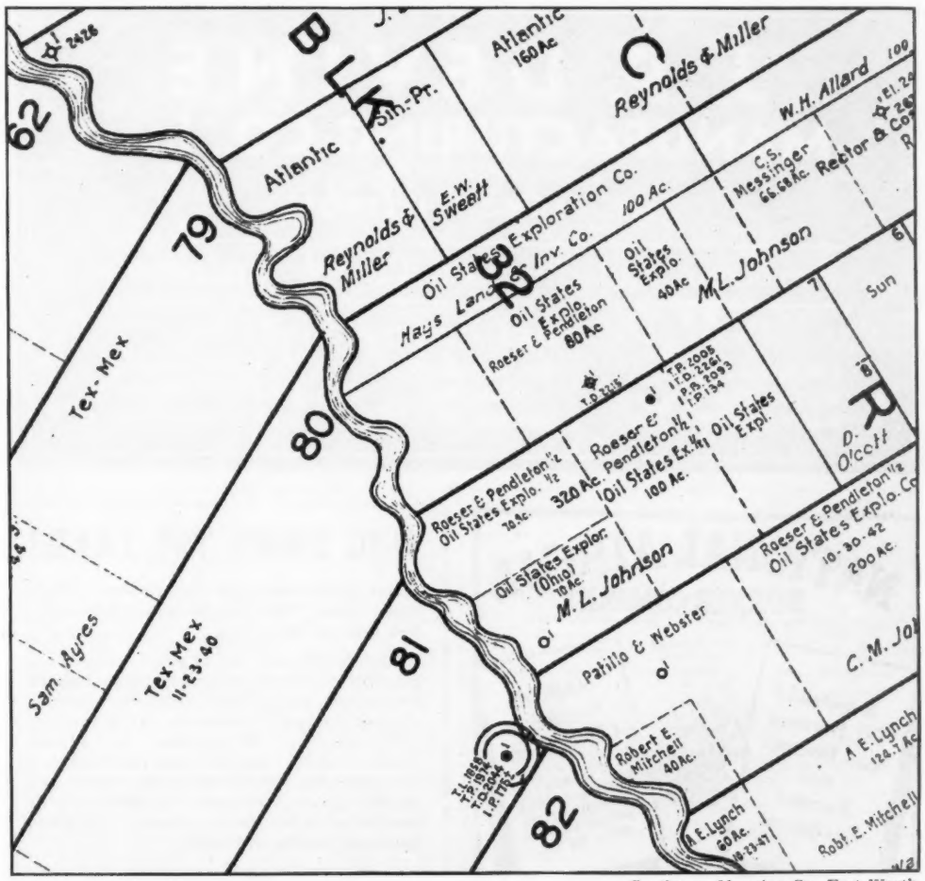
Jack County

Indications of a possible pool opener 7 miles north of Jacksboro was given last week as Hanlon-Buchanan No. 1 E. M. Meyers, F. Rodnose Survey, took 10 feet of penetration in an unexpected sand which showed some evidence of saturation. Pipe was set at 3,430 feet, 1 foot above the sand top, and after a small nitroglycerin shot, oil rose in the hole to about 2,800 feet, accompanied by some gas. Production tests will be made.

WEST CENTRAL TEXAS

Jones County

In northwestern Jones County, Grisham-Hunter Corp. No. 1 E. D. Apling continued to display its poten-



Southwest Mapping Co., Fort Worth

Just south of the Pecos River, in Pecos County, Hoss & Downey No. 1 Cities Service-Cordez, indicated a new pool opener after coring sands above its total depth of 2,044 feet, and flowing by heads at the rate of about 150 bbls. daily

tialities as a new field opener. This wildcat test had as its objective the Palo Pinto lime from which the prolific Avoca field is producing, but about 8 feet of saturated Lower Swastika sand (Cisco series) was drilled near 2,640 feet. After casing was set, production tests were made by swabbing, which showed approximately 50 bbls. oil and 20 bbls. of water per day. Water is thought to be coming from around the uncemented casing. Operators now plan to underream the pipe and continue drilling to the original contract depth of 4,000 feet in search of the Palo Pinto production.

In the possible 5-mile extension area to the Avoca field, just across the line in northwest Shackleford County, two new locations are to be drilled at once. The Owens-Snebold Oil Corp. and others No. 1 H. B. Haterius, discovery well or extensioner in section 163, B.B.B.&C. Survey, was tubed and packed to shut off upper waters, and flowed at the rate of 15 bbls. per hour before acidizing or shooting. The Iron Mountain Oil Co. and Danciger Oil & Refineries, Inc., both staked offsets. This area is sometimes referred to as the Ivy field, but it is though by some that the Ivy-Avoca pools will prove to be connected.

On the northeast trend which is developing from the Avoca pool of northeast Jones County, Humble Oil & Refining Co. is preparing to drill a 3,500-foot cable tool wildcat in southwestern Throckmorton County.

Callahan County

Woodley Petroleum Co. No. 1 Jack M. Flores is showing some oil on production tests and may open a new producing area in Callahan County southeast of Baird, from beds of Ordovician age. It is situated in the NW quarter of section 149, B.B.B.&C. Survey. No. 1 Flores topped the Ellenberger lime (Lower Ordovician) at about 4,287 feet and drilled saturated lime from 4,324-34 feet. After acidizing with 1,000 gallons the well made one small head of oil and later swabbed at the rate of 20 bbls. of 40-gravity oil and 10 bbls. of salt water per day, with small gas showings. Source of the water is not yet determined. Operators plan to reacidize with a larger charge and again test.

NORTH TEXAS COMPLETIONS

Archer County

L. T. Burns No. 2 C. B. Abney, 420-25 feet, 3 bbls. Wayne King No. 1 J. J. Perkins, 990 feet, dry. Martin & Hines No. 4 T. B. Wilson, 1,628 feet, dry. A. C. Parks No. 1 J. Rater, 756 feet, dry. Westmount Oil Co. No. 4 T. J. Dempsey, 1,785-98 feet, 80 bbls. Whitehill Oil Corp. No. 28 H. S. Morrison, 665-75 feet, 2 bbls.

H. A. Schaeffer Oil Co. (Norwood) No. 1 W. P. Ferguson, 3,811-3,886 feet, 999 bbls. in 24 hours, wildcat. Duncan & Marchman No. 13 N. I. Andrews, 996 feet, dry. A. P. Lieser No. 1 W. E. Brown, 1,411-15 feet, 5 bbls.

Baylor County

Consolidated Oil Co. No. 4 W. H. Portwood EE, 1,425 feet, dry.

Clay County

Bridwell Oil Co. No. 5 H. C. Edrington A, 172-200 feet, 2 bbls.

Cooke County

Hester Oil Co. No. 1 R. W. Trew, 1,109-25 feet, 8 bbls. Pace Petroleum Co. No. 2 J. R. Winstead B, 891-903 feet, 5 bbls. W. O. Russell No. 1 C. F. Bundy, 2,148-68 feet, 5 bbls.

Grayson County

Denver Producing & Refining Co. No. 1 E. B. Moore, 3,524 feet, dry.

Pearson Tubing Co. No. 1 J. H. Thompson, 4,550 feet, dry.

Jack County

R. H. Dearing & Sons No. 8 J. A. Raley B, 3,180-3,252 feet, 203 bbls. Hill & Hill No. 5 Clayton Bros. B, 2,875-3,123 feet, 50 bbls. Long & Wolf No. 2 J. M. Box, 2,994 feet, dry. Perrin & Gillispie No. 3 Clayton Bros., 3,020-50 feet, 150 bbls. Taubert & McKee No. 4 J. M. Box, 3,177-3,209 feet, 235 bbls.

J. B. Burrus No. 1 W. J. Eatherly, 3,340 feet, dry. Buttram Petroleum Co. No. 6 C. K. Cullers, 2,036-39 feet, 20 bbls. Cochburn Oil Co. No. 6 R. R. Clayton, 3,010-3,180 feet, 365 bbls.; No. 3 Mrs. J. G. Enlow, 3,177-3,236 feet, 300 bbls. W. R. Dearing and others No. 8 S. M. Jones, 3,070-3,237 feet, 200 bbls. B. P. Farris No. 1 J. M. Bloodworth, 470 feet, dry. Hanlon Buchanan, Inc., No. 1 C. A. Worthington and others, 2,358-2,369 feet, 80 bbls., wildcat. Moncrief & Showers No. 1 Mrs. J. G. Enlow, 3,070-85 feet, 235 bbls. York-Tex Oil Co. and States No. 4 Clayton B, 2,950-3,015 feet, 300 bbls.; No. 5 Clayton B, 2,938-3,092 feet, 23 bbls.

Montague County

Bridwell Oil Co. No. 14 Mrs. M. H. Salmon A, 955-1,015 feet, 10 bbls. Continental Oil Co. and others No. 1 J. B. Roach, 2,329 feet, dry.

Wichita County

L. T. Burns No. 21 First National Co., 3,621-3,843 feet, 950 bbls. A. L. Cato No. 1 J. A. Kemp, 3,685-3,742 feet, 1,210 bbls., flowing through casing. Christie Hickman No. 1 W. P. Boulding, 3,612-3,750 feet, 700 bbls. George W. Cooper No. 1 J. Hirschi, 3,283 feet, dry. Bert L. Ligen and others No. 1 Foster, 1,952 feet, dry. Tom B. Medders No. 1 W. T. Waggoner B, 1,751 feet, dry. W. H. Peckham No. 1 Munger, 3,715-3,867 feet, 710 bbls. Petroleum Producers Co. No. 2 First National Co., 3,683-3,860 feet, 750 bbls. George Proctor No. 23 Ed Foster A, 1,071-1,110 feet, 35 bbls. Reed Glass & Crenshaw No. 13 First National Co. B, 3,632-3,845 feet, 600 bbls.

H. Freundlich No. 3 J. F. and Ora Love, 502 feet, dry. Harrell & Eddleman and others No. 1 First National Co., 3,637-3,855 feet, 1,440 bbls. in 24 hours. Ryan Petroleum Corp. No. 127 G. L. Nance, 484-500 feet, 11 bbls. Schwegler & Persky No. 5 E. E. Goetze, 850-880 feet, 5 bbls. Wichita Falls Cotton Oil Co. No. 1 fee, 3,661-3,730 feet, 1,930 bbls. in 22 hours.

Wilbarger County

Lido Oil Co. No. 18 W. T. Waggoner C, 2,690-98 feet, 50 bbls.

Young County

Collier & Conner No. 1 H. M. Ford, 2,650 feet, dry.

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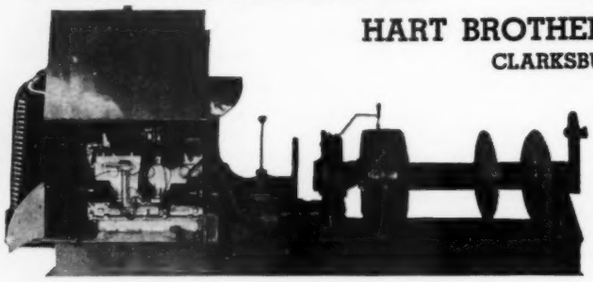

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T. D. Humphrey No. 1 W. J. Dodd, 3,838-3,939 feet, 600 bbls. Lupton & McLester No. 2 J. A. Brown, 3,794-3,853 feet, 285 bbls. A. T. Strong No. 1 H. C. Kunkel, 3,802-3,939 feet, 800 bbls. E. D. Willis No. 1 E. M. Schumaker, 810 feet, dry.

Knox & Clay No. 1 Mrs. W. Robertson, 3,602-3,616 feet, 803 bbls. C. A. Lupton and L. A. Long No. 1 W. I. Gilmore, 4,110 feet, dry. Wichita Producing Co. No. 1 Texas L. & M. Co., 818 feet, dry.

Wise County

Latex Oil Co. No. 1 C. R. Smith, 4,075 feet, dry.

PANHANDLE COMPLETIONS

Carson County

Magnolia Petroleum Co. No. 32 fee, 2,931-90 feet, 148 bbls. per day. Panhandle Eastern No. 1-13 J. M. Sanford, 2,600-90 feet, 42,089,000 feet of gas.

Gray County

Bobuck Oil Co. No. 5 Catlin, 3,122-3,227 feet, 533 bbls. per day. F. W. Dye and others No. 4 Meers A, 3,120-3,228 feet, 561 bbls. per day. Kewanee Oil & Gas Co. No. 6 Adams-Morse A, 2,447-2,548 feet, 393 bbls. per day. Sinclair Prairie No. 1 Pope, 3,160-3,310 feet, 360 bbls. per day. Stanolind Oil & Gas Co. No. 10 Waggoner, 3,180-3,284 feet, 226 bbls. per day.

Hartley County

Canadian River Gas Co. No. 22 Bivins A, 3,128-83 feet, 3,550,000 feet of gas.

Hutchinson County

Alma Oil Co. No. 2 Whittenburg C, 2,930-55 feet, 450 bbls. per day. Barnsdall Oil Co. No. 7 Lewis, 2,920-3,000 feet, 749 bbls. per day. Drilling & Exploration Co. No. 15 Haile, 3,040-3,100 feet, 354 bbls. per day. Stanolind Oil & Gas Co. No. 10 Haile A, 3,066-3,100 feet, 409 bbls. per day; No. 9 Haile B, 3,025-46 feet, 132 bbls. per day. J. R. Phillips and others No. 2 W. D. Twichell, 3,080-90 feet, 594 bbls. per day.

Moore County

Magnolia Petroleum Co. No. 4 C. R. Jones, 2,855-3,260 feet, 25,091,000 feet gas.

Wheeler County

Lone Star Gas Co. No. 1 W. R. Rodgers, was dry and abandoned at a total depth of 2,265 feet.

WEST TEXAS COMPLETIONS

Andrews County

A wildcat, Gulf Oil Corp. No. 1-G State, was dry and abandoned at a total depth of 4,518 feet.

Crane County

Magnolia Petroleum Co. No. 11 Edwards, 3,533-78 feet, 197 bbls. per day.

In the Jordan field, E. E. Fogelson No. 3-D University, 3,415-3,580 feet, 535 bbls. per day. Same operator's No. 4-D University, 3,445-3,580 feet, 565 bbls. per day.

In the McCamey field, Continental Oil Co. No. 8-D Hughes, 2,340-96 feet, 407 bbls. per day. The Texas Co. No. 36 King was dry and abandoned at a total depth of 2,646 feet.

In the Tubbs field, Gulf Oil Corp. No. 6 Waddell and others was dry and abandoned at a total depth of 6,126 feet. Humble Oil & Refining Co. No. 15 Tubbs, 4,275-4,435 feet, 3,217 bbls. per day.

Ector County

Gulf Oil Corp. No. 13-B Cannell, 3,420-3,700 feet, 718 bbls. per day. Skelly and Atlantic No. 2-D University, 3,440-3,650 feet, 751 bbls. per day. Barnsdall No. 3 Johnson, 4,197-4,290 feet, 521 bbls. per day. Sunray Oil Co. and York & Harper No. 2 Bagley, 4,104-4,316 feet, 554 bbls. per day. Texas & Pacific Coal & Oil Co. No. 12 Scharbauer, 4,186-4,275 feet, 3,675 bbls. per day. Shell Petroleum Corp. No. 1-B TXL, 4,210-75 feet, 65 bbls. per day. Amerada Petroleum Corp. No. 4 Cummins, 4,190-4,259 feet, 488 bbls. per day. Humble Oil & Refining Co. No. 5-C Scharbauer, 4,169-4,211 feet, 305 bbls. per day. Gulf Oil Corp. No. 57 Goldsmith, 4,138-4,215 feet, 445 bbls. per day. American Maracaibo No. 1-B Scharbauer, 4,130-90 feet, 747 bbls. per day. Mabee & Blackstock No. 2 E. F. Cowden, 4,025-4,285 feet, 786 bbls. per day. Broderick & Calvert No. 4-C Cowden, 4,050-4,282 feet, 2,414 bbls. per day.

In the Connell field, the Texas Co. No. 19 W. E. Connell, 3,507-3,675 feet, 426 bbls. per day.

In the Foster field, Barnsdall No. 6 F. Foster, 3,995-4,175 feet, 1,063 bbls. per day.

In the Goldsmith field, Devonian No. 4-C Scharbauer, 4,165-4,214 feet, 1,067 bbls. per day. Landreth No. 3-K Scharbauer, 4,170-4,207 feet, 722 bbls. per day. Gulf Oil Corp. No. 58 Goldsmith, 4,160-4,205 feet, 3,348 bbls. per day.

In the Harper field, Honolulu Oil Co. and Black No. 3-A E. Cowden, 4,077-4,291 feet, 585 bbls. per day.

In the North Cowden field, Stanolind Oil & Gas Co. No. 67 J. M. Cowden, 4,125-4,320 feet, 464 bbls. per day. Stanolind Oil & Gas Co. No. 68 J. M. Cowden, 4,066-4,292 feet, 486 bbls. per day.

Gaines County

Carter-Continental No. 3 A. L. Wasson, 4,530-50 feet, 961 bbls. per day.

Glasscock County

In the Chalk-Roberts-Settles field, Continental Oil Co. No. 4 Gilbreath, 2,482-2,832 feet, 539 bbls. per day.

Fisher County

Magnolia Petroleum Co. No. 2 Ella Smith, 3,499-3,508 feet, 961 bbls. per day. Sunray Oil Co. No. 4 Robinson, 3,543-50 feet, 772 bbls. per day.

Howard County

W. E. Production No. 2 Wilcox, 3,140-3,318 feet, 12 bbls. per day.

In the Snyder field, Ajax No. 1 Snyder, 2,660-2,926 feet, 506 bbls. per day. Shell Petroleum Corp. No. 1 TXL, 2,609-2,960 feet, 396 bbls. per day.

Jones County

Guitar Trustee Estate No. 10 fee, 1,975-2,004 feet, 330 bbls. per day. Sherwood B. Owens No. 4 Wilma Gilbreth, 1,974-90 feet, 35 bbls. per day. Ungren & Frazier No. 15-C Dorsey, 2,055-85 feet, 81 bbls. per day. Two wildcats were dry and abandoned last week, Texas Oil & Gas and Ungren & Frazier No. 1 J. E. Seller, total depth of 2,012 feet, and Ungren & Frazier No. 1 Manly Heirs, total depth of 2,255 feet.

Pecos County

G. H. Hayward No. 1 Maude T. Sanford, was dry and abandoned at 1,490 feet. Cardinal Oil Co. No. 51-E Tippett, 477-539 feet, 14 bbls. per day. Two wildcats, Walter K. Tuller No. 2 Perry, was dry and abandoned at 2,004 feet and M. L. Benedum No. 1 J. C. Trees, was dry and abandoned at 4,995 feet.

In the Messenger field, Messenger No. 3 Byrne, 1,338-73 feet, pumped 25 bbls. per day.

In the Taylor-Link field, B. C. Mann and others No. 3-A University, 1,642-46 feet, 200 bbls. in 18 hours.

A wildcat, Humble Oil & Refining Co. No. 1 Belding and others was dry and abandoned at a total depth of 2,718 feet. Humble Oil & Refining Co. No. 1 Butz was dry and abandoned at a total depth of 730 feet.

Upton County

Gulf Oil Corp. No. 163 McElroy, 2,767-2,889 feet, 461 bbls. per day.

In the McCamey field, Peerless No. 2 Shirley, 2,150-2,245 feet, pumped 408 bbls. per day. The Texas & Pacific No. 10-D Shirk, 2,283-2,327 feet, pumped 227 bbls. per day. Acme Oil & Royalty Co. No. 1-B Shirley, 2,205-22 feet, 720 bbls. per day. Glenn J. Smith No. 11 Burleson, 2,127-67 feet, 245 bbls. per day.

Ward County

Cities Service Oil Co. No. 1 Brandenburg, was dry and abandoned at 2,245 feet. Eastland No. 1 W. D. Hahnson, 2,612-2,925 feet, 244 bbls. per day. Standard No. 19-37 McFarland, 2,424-2,650 feet, 192 bbls. per day. Humble Oil & Refining Co. No. 25 Richter, 2,500-2,610 feet, 840 bbls. per day. Gulf Oil Corp. No. 69 Estes, 2,457-2,680 feet, 2,253 bbls. per day. Gulf Oil Corp. No. 86 Hutchins, 2,752-3,080 feet, 1,117 bbls. per day.

In the Grand Falls field, Illinois Oil Co. No. 2 W. R. Roach, 2,578-2,502 feet, pumped 94 bbls. per day.

In the Hathaway field, Standard of Texas No. 21-37 McFarland, 2,404-2,551 feet, 234 bbls. per day.

In the O'Brien field, Gulf Oil Corp. No. 90 O'Brien, 2,576-2,770 feet. 778 bbls. per day.

Winkler County

Continental Oil Co. No. 1 E. W. Cowden, 2,883-2,995 feet, 314 bbls. per day. Gulf Oil Corp. No. 22 O. Clapp, 2,811-3,090 feet, 201 bbls. per day; No. 24

(Continued on Page 91)

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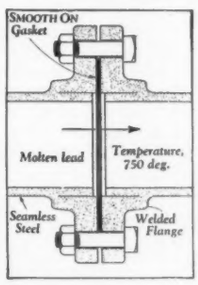

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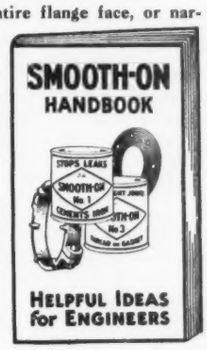

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Rocky Mountain Area

By
T. R. INGRAM

LEA COUNTY'S 3,600-BARREL WELL BEST OF WEEK'S CROP

DENVER, Colo., Jan. 3. — The Texas Co. and California Co.'s test on Wilson Creek, Rio Blanco County, Colorado, an important discovery in the Morrison, is coring within a few feet of the objective Sundance. The Dakota sands in the Denver Basin will be found more than a thousand feet higher than expected according to analyses of samples from the Oklahoma Oil Co. No. 1 Baxter, near Denver. A Grand County wildcat attracted attention with a show of gas near top of the Niobrara.

Murphy Oil Co. completed a 480-bbl. well in the Dakota on the Quealy dome in Wyoming in its No. 11 Holst. Ohio Oil Co. No. 2 Griffin, Albany County, found water in the Tensleep and was abandoned. Unit agreement for Lance Creek was approved, effective January 1. Continental Oil Co. No. 1 Leach, East Lance Creek wildcat, was completed for 8,480,000 feet of gas in the Dakota. Same company's No. 8 Rohlff, on west side, was completed for 675 bbls. per day in the Minnelusa after acidizing.

One well was completed in the Kevin-Sunburst field in Montana for 80 bbls. per day natural from the Sunburst sand in the New Era Fuel Co. No. 3 Goeddertz. Two new operations were started.

The Salt Valley structure, Grand County, Utah, is to have another test.

NEW MEXICO

Cities Service Oil Co. No. 1-A Clossen, C NE NE section 18-22-36, wildcat south of the Eunice field and 1 mile west of the South Eunice area, flowed 300 bbls. of oil naturally in two hours, flowing through tubing. It was rated as a 3,600-bbl. well. Gas gauged 2,000,000 feet. Pay was topped at 3,740 feet, total depth 3,814 feet.

Same operators completed a large well in the south end of the Eunice field at No. 8-A Clossen, C W half NE section 6-22-36. It flowed 3,240 bbls. of oil naturally through tubing in 24 hours, from pay topped at 3,794 feet, total depth 3,845 feet.

Continental Oil Co. No. 2-E-17 State, C NE SE section 17-22-36, South Eunice area, found pay at 3,820 feet, total depth 3,858 feet, was acidized and flowed 112 bbls. of oil through choke in 24 hours.

Same company's No. 6-A-17 State, C NW NE section 17-19-37, northeast side of the Monument field, flowed 176 bbls. of oil in 24 hours through choke, after acidizing and shooting. Top of pay was 3,930 feet, total depth 4,026 feet.

Continental Oil Co. No. 1-A-30 Warren, NW section 30-20-38, found pay at 3,750 feet, was bottomed at 3,860 feet, shot and acidized and flowed 52 bbls. of oil in 24 hours through casing.

Hershback Drilling Co. No. 1 Burleson, C E half NE NW section 8-25-37, flowed 168 bbls. of oil through choke in 24 hours after a shot and was completed at 3,476 feet, total depth. Pay was topped at 3,330 feet.

Shell Petroleum Corp. No. 3-J State, SE cor. section 32-20-37, Eunice sector, had pay at 3,732 feet, total depth 3,832 feet, was acidized and flowed 101 bbls. of oil through tubing in 24 hours.

Continental Oil Co. No. 1-A-7 State, C NE SE section 7-19-37, was completed as a 76-bbl. well at 4,046 feet, total depth.

In Eddy County, Grayburg Oil Co. No. 9 Burch, SE NW NW section 19-17-30, was completed as a 25-bbl. well at 3,158 feet, total depth.

Nash & Windfohr No. 6-A Jackson, C NE SE section 13-17-30, was bottomed at 3,525 feet, and was completed for 480 bbls. of oil daily.

Lea County

Amerada Pet. Corp. No. 6 Byrd, SE sec. 12-20-36. Loc.
Amerada Pet. Corp. No. 2 Corrigan, C S½ SE NE sec. 4-22-37. Drlg. 3,752 ft.
Amerada Pet. Corp. No. 3 Laughlin, C NW NE sec. 9-20-37. T.D. 2,585 ft.; set 8-in. 2,573 ft.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-27-37. Drlg. 3,610 ft.
Anderson-Prichard Oil Corp. No. 2 Langlie, SE sec. 8-25-37. Drlg. 3,325 ft.
Atlantic Ref. Co. and others No. 1 Davis, SW NW SW sec. 34-23-36. Drlg. 1,650 ft.
Atlantic Ref. Co. No. 1 Grizzell, C SE NE sec. 6-22-37. Drlg. 3,713 ft.
Barnsdall Oil Co. No. 1 Whitten, NE NE NW sec. 4-24-36. Drlg. 3,495 ft.
Barnsdall Oil Co. No. 1 J. Whitten, SE cor. sec. 33-23-36. Drlg. 2,505 ft.
Cities Service Oil Co. No. 2-A Clossen, NE sec. 18-22-36. R.U.R.
Cities Service Oil Co. No. 1-H State, C NE NE sec. 17-22-36. T.D. 3,884 ft.; prep. to deepen.
Continental Oil Co. No. 3-B-6 Elliott, C SE SE sec. 6-22-37. T.D. 3,778 ft.; fsg.
Continental Oil Co. No. 1-B-9 Elliott, NW sec. 9-22-37. Cellar and pits.
Continental Oil Co. No. 3-B-31 Lockhart, SE sec. 31-21-36. T.D. 3,924 ft.; F. 39 B.O. in 2 hrs.
Continental Oil Co. No. 1-A-31 Marsh, SE sec. 31-20-39. Wildcat. Derrick.
Continental Oil Co. No. 1-B-23 Reed, NE cor. sec. 23-20-36. T.D. 1,200 ft.; W.O.C.
Continental Oil Co. No. 3-B-24 Reed, SW sec. 24-20-36. T.D. 1,092 ft.; set 7-in. csg. 1,198 ft.
Cranfill & Germany No. 1 Weir, C NE NE sec. 15-20-37. T.D. 4,210 ft.; S.D.O.
Culbertson & Irwin No. 1 Alston, NW cor. sec. 26-25-37. Drlg. 3,167 ft.
Culbertson & Irwin No. 4-A Humphrey, NE SE NW sec. 3-25-37. Drlg. 2,250 ft.
Culbertson & Irwin No. 5-A Humphrey, NE NW SE sec. 3-25-37. R.U.S.T.
Culbertson & Irwin No. 7-A Humphrey, NE SW SE sec. 3-25-37. Loc.
Culbertson & Irwin No. 1 Liberty Royalty, NW sec. 3-25-37. Drlg. 975 ft.
Dalport Oil Corp. No. 1 Leonard, C SE NW sec. 29-26-38. Wildcat. Drlg. 155 ft.
Danglade & Clower No. 1 Clifton, C SW SW sec. 4-22-37. Drlg. 2,620 ft.
Eastland Oil Co. No. 1 Waldrop, C SE SE sec. 1-20-38. T.D. 4,755 ft.; S.D.O.
L. E. Elliott No. 1 Elliott, NE NE SE sec. 26-20-36. Drlg. 1,375 ft.
Emperor Oil Co. No. 1 Johns, C SW NW sec. 24-17-32. T.D. 4,390 ft.; P.B. 4,260 ft.; F. 15 B.O.P.D.; to shoot.
Empire O. & R. Co. No. 1-G State, sec. 2-21-36. T.D. 3,900 ft.; S.D.
Empire O. & R. Co. No. 2-B State, C SE SW sec. 2-21-37. Drlg. 3,875 ft.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. Drlg. 3,700 ft.
Geo. F. Getty No. 1 Riggs, NW sec. 1-26-37. Wildcat. Location.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. T.D. 3,681 ft.; testing.
Gulf Oil Corp. No. 2 Cole, C NE NE sec. 16-22-37. T.D. 1,141 ft.; S.D.
Gulf Oil Corp. No. 1 Elliott, SW SE SE sec. 15-25-37. Drlg. 3,398 ft.
Gulf Oil Corp. No. 2 Elliott, C NE SE sec. 15-25-37. Derrick.
Gulf Oil Corp. No. 1 Greer, SW sec. 21-22-36. Derrick.
Gulf Oil Corp. No. 2 Kyte, SE sec. 7-19-37. T.D. 4,033 ft.; testing.
Gulf Oil Corp. No. 1-D Mattern, SW sec. 6-22-37. Derrick.
Gulf Oil Corp. No. 1 LeMunyon, C NE NE sec. 28-23-37. Old well; T.D. 3,651 ft.; to deepen.
Gulf Oil Corp. No. 2 Stebbins, C SW NW sec. 5-22-37. Derrick.
Gulf Oil Corp. No. 2-B Stebbins, C NW NE sec. 5-22-37. T.D. 3,759 ft.; acid.; testing.
Gulf Oil Corp. No. 3 Stuart, C SE NE sec. 10-25-37. T.D. 3,422 ft.; F. 78 B.O.P.D.; testing.
Gulf Oil Corp. No. 1-B White, SE sec. 35-20-36. T.D. 3,860 ft.; testing.
Humble O. & R. Co. No. 3 Williams, C SW NW sec. 34-24-37. T.D. 3,532 ft.
Humble O. & R. Co. No. 1-H State, SW sec. 27-22-37. Drlg. 3,465 ft.
Jal Nat. Gas Corp. No. 2 Justis, NE sec. 20-25-37. T.D. 3,029 ft.; testing.
Harry Leonard No. 1 Ginsberg, NW sec. 29-25-38. Wildcat. Location.
Harry Leonard No. 4 Lanehard, SW NW NE sec. 21-25-37. T.D. 3,035 ft.; F. 65 B.O.P.D.
Lem Peters No. 1 Graham, sec. 27-22-37. Drlg. 1,205 ft.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 34-17-34. T.D. 4,905 ft.; P.B. 4,794 ft.
Magnolia Pet. Co. No. 2 State-Bridges, sec. 14-17-34. T.D. 4,593 ft.; flow. 51 B.O. in 1 hr., naturally.
Magnolia Pet. Co. No. 3 State-Bridges, C NW SW sec. 23-17-34. Drlg. 3,475 ft.
J. A. Mascho No. 1 Cloyd, C SE SE sec. 20-22-23. Wildcat; T.D. 3,516 ft.; S.D.O.
McDowell & Weiner No. 1 Elliott, SE cor. sec. 19-21-37. T.D. 3,778 ft.; to deepen.
C. T. McLaughlin No. 1 Polhamus, NE sec. 9-24-37. T.D. 3,672 ft.; S.D. for mch.
C. T. McLaughlin No. 1 Imperial Royalties, NW SE NW sec. 9-24-37. T.D. 3,436 ft.; W.O.C.
National Drlg. & Prod. Co. No. 1 Flint, C NE NE sec. 29-20-34. Wildcat; drlg. 3,695 ft.
Ohio Oil Co. No. 2 Grizzell, C NW SE sec. 5-22-37. T.D. 600 ft.; prep. to drill in.
Ohio Oil Co. No. 1 Hardy, NE NE SE sec. 20-21-37. T.D. 3,612 ft.; drlg. by tools.
Ohio Oil Co. No. 1 Kutter D, C SW SW sec. 18-19-37. Drlg. 3,590 ft.
Ohio Oil Co. No. 1 Sanders, NW sec. 1-22-36. Drlg.
Ohio Oil Co. No. 7 State-McDonald, C SW SE sec. 16-22-36. T.D. 3,871 ft.; C.O.
N. G. Penrose, Inc., No. 1 Crosby, NE sec. 18-22-37. Location.
Phillips Pet. Corp. No. 1 Hale, C NE SE sec. 35-17-34. Drlg. 1,385 ft.
Phillips Pet. Corp. No. 1 New, C E½ NE NE sec. 26-20-36. Drlg. 700 ft.
Plains Prod. Co. No. 1 Humphreys, NE sec. 3-25-37. Loc.
Plains Prod Co. No. 2 Moseley, SW NE SE sec. 34-24-37. Drlg. 1,530 ft.
Repollo Oil Co. No. 1 Powhatan Carter, SW SW NE sec. 9-24-37. Drlg. 3,582 ft.
Repollo Oil Co. No. 3 Christmas, NW NW NE sec. 28-22-37. Drlg. 3,145 ft.
Repollo Oil Co. No. 3 Moseley, SW sec. 34-24-37. T.D. 3,493 ft.; testing.
Repollo Oil Co. No. 4 Roach, NW NW SW sec. 21-20-37. T.D. 3,875 ft.; P.B. 3,860 ft.; shot; R.U.S.T.; to C.O.
Repollo Oil Co. No. 4-D Stuart, SW sec. 10-25-37. Cellar and pits.
Repollo Oil Co. No. 2 White, SE sec. 24-20-36. Drlg. 3,185 ft.
Repollo Oil Co. No. 2-B Whitten, NE cor. sec. 4-24-36. D.S.T. 3,575-3,625 ft.; S.O.
Rowan Drlg. Co. No. 2 Elliott B, C NW NW sec. 9-22-37. Drlg. 3,660 ft.
Rowan Drlg. Co. No. 2-A Elliott, C NE SW sec. 27-22-37. Drk.
Rushwold Oil Co. No. 1 Mattix, C SE NE sec. 10-24-37. T.D. 3,626 ft.; C.O.
Samedan Oil Co. No. 5 Hughes, C NE SW sec. 10-23-37. T.D. 365 ft.; running csg.
Shell Pet. Corp. and Devonian Oil Co. No. 3 Christmas, C SW NE sec. 21-22-36. T.D. 3,855 ft.; P.B. 3,840 ft.; S.D.O.
Shell Pet. Corp. No. 2-L Endura-State, NE SE SE sec. 1-21-35. T.D. 3,905 ft.; to acidize.
Shell Pet. Corp. No. 1 Grizzell, SE sec. 8-22-37. Cellar and pits.
Shell Pet. Corp. No. 4-E State, C SW NW sec. 12-20-36. Drlg. 3,800 ft.
Skelly Oil Co. No. 1-J State, C NE NW sec. 31-17-35. T.D. 4,482 ft.; S.D.O.
Skelly Oil Co. No. 5 J. B. Baker, C SE NW sec. 27-22-37. T.D. 3,620 ft.; tstg.
Skelly Oil Co. No. 1 E. T. Johns, SW sec. 21-24-37. T.D. 3,508 ft.; to drill ahead.
Skelly Oil Co. No. 5 G. W. Sims, C SE NW sec. 10-23-37. Drlg. 1,225 ft.
Skelly Oil Co. No. 3 G. W. Sims, C NW NE sec. 9-23-37. T.D. 3,642 ft.; C.O.
Skelly Oil Co. No. 1-C R. R. Sims, sec. 3-23-37. Drlg. 3,688 ft.
Skelly Oil Co. No. 1-E W. P. Sims, C NW NE sec. 10-23-37. T.D. 3,625 ft.; flwd. 452 bbls. in 24 hrs.
Southern Pet. Exploitation Co. No. 1 Downes, SW sec. 32-21-37. Drlg. 3,663 ft.
Stanolind O. & G. Co. No. 13-A Gilluly, C SE NW sec. 24-20-36. Drlg. 1,885 ft.
Stanolind O. & G. Co. No. 1-A Hill, C NW SE sec. 6-21-37. T.D. 3,540 ft.; R.U.S.T.
Stanolind O. & G. Co. No. 1 Thompson, NE sec. 6-21-27. Drlg. 3,752 ft.
W. H. Street No. 3 Woods, C NW NE sec. 22-22-37. Drlg. 1,840 ft.
Sun Oil Co. No. 2 Lanehart, C NE SE sec. 20-25-37. Drlg. 2,944 ft.
Texas Co. No. 2-B Cagle, SW sec. 15-26-37. Drlg. 3,210 ft.
Texas Co. No. 2 Fristoe, NW NE NE sec. 3-25-37. T.D. 3,473 ft.; running tb.
Texas Co. No. 3 Falvy, C NW NW sec. 8-22-37. T.D. 3,760 ft.; F. 40 B.O. in 24 hrs. while C.O.
Texas Co. No. 1-M State, NW sec. 1-18-34. Drlg. 4,035 ft.
Texas Pacific Coal & Oil Co. No. 7-A State, Acct. 2, C NW NW sec. 8-22-36. Drlg. 2,885 ft.
Two States Oil Co. No. 1 Moskin, C NW NW sec. 5-22-37. Drlg. 3,435 ft.
Two States Oil Co. No. 2 Moskin, C NE NE sec. 6-22-37. Drlg.
Western Gas Co. No. 1 Cowden, SE cor. sec. 30-23-37. T.D. 3,440 ft.; R.U.S.T.

Eddy County

F. E. Baker No. 1 Eddy, NE sec. 12-22-27. T.D. 1,608 ft.; S.D.
Barnett Oil Dev. Co. No. 1 King Permit, C NW SE sec. 23-26-30. T.D. 35 ft.
Ed Bryant No. 1 Stebbins, C NE SW sec. 19-20-29. T.D. 1,000 ft.; S.D.O.
Carper Drlg. Co. No. 2 Gissler, SW SE NW sec. 23-17-30. T.D. 3,688 ft.; P.B. 3,488 ft.; recemented.
Danciger O. & R. Co. No. 3 Turner, SW NE SW sec. 18-17-31. T.D. 3,510 ft.; testing.
D. & B. Oil Co. No. 2 Jenkins, SW NW NW sec. 20-17-30. Drlg. 3,090 ft.
Etz Brothers No. 4 State, C S½ SE SE sec. 16-17-30. Drlg. 3,080 ft.
Finley & Cherry No. 1 Buchley, C NW NW sec. 28-16-31. Wildcat; T.D. 3,750 ft.; S.D.
Flint Prod. Co. No. 1-B State, SE sec. 20-17-30. Drlg. 3,830 ft.
Franklin Pet. Corp. No. 1 McIntyre, NE NW SW sec. 20-17-30. Drlg. 3,146 ft.
C. J. Frederick No. 1 Reed, C NE SW sec. 28-24-28. T.D. 1,170 ft.; S.D.O.
F. W. & Y. Oil Co. No. 7-A Gissler, NE sec. 23-17-30. T.D. 3,480 ft.; flwd. 70 B.O.P.D.; est. 140 B.O.
F. W. & Y. Oil Co. No. 1-B Gissler, SW sec. 15-17-30. Loc.
F. W. & Y. Oil Co. No. 2-B Gissler, C NW NW sec. 24-17-30. Drlg. 2,470 ft.

F. W. & Y. Oil Co. No. 3 Jackson, C NW SE sec. 13-17-30. T.D. 2,953 ft.; fsg.
Geo. F. Getty, Inc., No. 1-E State, NE SW SW sec. 16-17-31. Drlg. 3,250 ft.
Grayburg Oil Co. No. 10 Burch, SE NE NE sec. 19-17-30. T.D. 2,900 ft.; running csg.
Grayburg Oil Co. No. 4 Keely, SE sec. 24-17-9. Drlg. 520 ft.
M. A. Grisham No. 1 Chaytor, NE sec. 10-24-26. T.D. 1,966 ft.; testing.
H. A. Hartwell No. 1 Vandagrift, NE NE SE sec. 8-18-27. Drlg. 500 ft.
R. L. Holcomb No. 1 State, NW sec. 22-17-28. T.D. 487 ft.; underdigging csg.
Woodworth Hawkins No. 1 Mack, C SW SW sec. 20-24-27. T.D. 1,252 ft.; running csg.
C. F. Ingram No. 1 Page, NE NE SW sec. 15-21-28. T.D. 1,310 ft.; S.D.O.
Nash & Windfohr No. 8-A Jackson, sec. 13-17-30. Drlg. 900 ft.
Nash-Windfohr & Brown No. 2-B Stevens, NW sec. 13-17-30. T.D. 555 ft.; W.O.C.
W. A. Nichols No. 1 Johnson, NE sec. 35-16-21. Wildcat; T.D. 3,940 ft.; F. 132 B.O. in 12 hrs.
Red Gulch Oil Co. No. 1 State, C S½ SE SE sec. 4-17-28. Drlg. 1,270 ft.
Red Lake Oil Co. No. 1 Williams, C SW NW sec. 21-17-28. Drlg. 1,815 ft.
Repollo Oil Co. No. 3-D McIntyre, SE cor. sec. 17-17-30. Drlg. 2,360 ft.
Repollo Oil Co. No. 1-A Parke, NW NE NE sec. 22-17-30. T.D. 2,960 ft.; W.O.C.
Repollo Oil Co. No. 2 West, SW SE SE sec. 9-17-31. T.D. 3,740 ft.; 1,900 ft. O.I.H.
Paul Sargent No. 1 State, NE sec. 16-17-31. T.D. 3,749 ft.; P.B. 3,745 ft.; tstg.
R. A. Shugart No. 1 Coulthard, C NW SW sec. 35-18-31. Drlg. 3,801 ft.
Texas Co. No. 1 Welch, sec. 30-20-31. R.U. mch.
W. K. Royalty No. 2 State, C NE NW sec. 16-17-31. R.U. mch.
W. O. Snyder No. 1 Pecos Irrigation, C NE SE sec. 15-25-28. Drlg. 2,858 ft.

Chaves County

English & Hamon No. 11 Billingslea, SE sec. 9-15-29. T.D. 3,680 ft.; P.B. 3,456 ft.; water shut off.
E. J. Fisher No. 1 Etz Permit, NE sec. 23-7s-26. T.D. 695 ft.; S.D.
J. & L. Drlg. Co. No. 2 Hurd, SW sec. 11-11-26. Location.
Mathieson et al No. 1 Code, C NE NW sec. 19-15-27. Drlg. 1,040 ft.

Curry County

Bond & Harrison No. 1 Hart ranch, C NW SE sec. 13-2n-31. T.D. 3,258 ft.; S.D.O.

De Baca County

Land Owners Oil Co. No. 1 McAdoo, SW cor. sec. 16-1s-7e. O.W. prep. to deepen from 5,850 ft.
James D. Ward No. 1 Summers, NW NE SW sec. 17-4n-20. Location.
N. F. Woods No. 1 Jones, C NE SW sec. 17-4n-20. Location.

Dona Ana County

Jules C. Bertrand No. 1 Casad Permit, sec. 24-26-5e. T.D. 47 ft.; S.D.O.

McKinley County

S. Dysart No. 1 Govt., NE sec. 14-14-10w. T.D. 1,390 ft.; fsg.

Otero County

George Mulvey No. 1 State, SW cor. sec. 11-25-8. T.D. 263 ft.; S.D.
Fred Turner, Jr., No. 1 Ella Everett, C SE SE sec. 34-22-13. R.U.S.T.
Fred Turner, Jr., No. 1 H. V. Everett, C SE SE sec. 28-22-13. Spd. and S.D.

Roosevelt County

C. S. Peterson and Conquistadores Oil Co. No. 1 Good, NW SE SE sec. 28-5s-30. T.D. 450 ft.; S.D.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. S.D. 3,750 ft. for csg.

McKinley County

Guarantee Oil Co. No. 1 fee, NW NW NW sec. 31-20n-9w. S.D. 327 ft.
S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,390 ft.; re-ran 12½-in. to 1,320 ft. and S.D.
Bill Forth No. 1 Comanche, C NW SE sec. 29-20n-10w. Drlg. 200 ft.

San Juan County

Continental Oil Co. No. 69 Rattlesnake, SE NE SE sec. 2-29n-19w. T.D. 850 ft.; prep. to test.
C. E. Brawley No. 1 Godrun, C SE SW sec. 34-30n-11w. Drlg. 820 ft.
Continental Oil Co. No. 67 Rattlesnake, C SE sec. 2-29-19w. S.D. 800 ft.
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. below 1,000 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Brown, SE NW sec. 16-3n-1e. Drlg. below 1,700 ft.

Valencia County

C. A. Brober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. S.D. 900 ft.; chge. to rotary.
Big Three Oil Co. No. 1 Dailes Townsite, SE SE NW sec. 5-6n-1e. T.D. 6,114 ft.; cmtd. 4-in. liner at 5,971 ft.; W.O.C.

COLORADO

Adams County

A report released by W. A. Waldschmidt, of the Mineralogical & Patrographical Laboratory, of Denver, on samples from the Oklahoma Oil Co. No. 1 Baxter, 12 miles east of Denver, in Adams County, is of more than ordinary interest. He puts the bottom of the Hygiene in the Pierre section at 3,205 feet on the basis of determinations from the samples and predicts that the Muddy, first of the Dakota series, will be reached at 6,100 to 6,300 feet. The report upsets calculations heretofore prevailing as to depths of beds in the Denver Basin. Several years ago it was generally believed that the Dakota would be found at around 10,000 feet. When the No. 1 Baxter was spudded, it was believed it would have to go to 8,000 or 9,000 feet. The late C. T. Lupton, who geologized the Derby dome, upon which the test is located, expressed the opinion that the depth would be around 7,300 feet. The Waldschmidt report shows that the test is now below the Hygiene and that the Muddy will be reached at a much shallower depth than in tests drilled much farther out in the basin. On account of the interest in the subject, Waldschmidt's summary of his analyses is given herewith:

Examination of samples from the No. 1 Baxter, from 12 to 4,368 feet, has been completed. On the basis of characteristics of the samples, it has been possible to determine certain formation contacts and to predict the depth to other formations. These determinations and predictions are as follows: Base of Laramie, top of Fox Hills, 380 feet; base of Fox Hills, top of Pierre, 1,034 feet; top of Hygiene (in Pierre section), 1,995 feet; base of Hygiene (in Pierre section), 3,205 feet; top of Niobrara (predicted) between 5,100 and 5,300 feet; top of Muddy, first sand of Dakota series (predicted), between 6,100 and 6,300 feet.

It is possible that any of the depths given above may be incorrect as much as 100 feet because of single samples representing many feet of section and because of mixing of samples during drilling. The top of the Fox Hills (380 feet) is based on samples from the Baxter well, whereas, on information from the water well only a short distance from the Baxter well, the top of the Fox Hills could be placed at approximately 420 feet.

Similarly, the base of the Fox Hills as determined from the Baxter well is at 1,034 feet, whereas, on the water well information, it could be placed at 1,040 feet or 1,220 feet.

The top and base of Hygiene sections are placed at 1,995 and 3,205 feet, respectively, in order to include the major sandstone horizons. However, by including more sandy shale both higher and lower than the depths given, the top of the Hygiene could be placed at 1,640 feet and the base at 3,275 feet. Normally the Hygiene formation is between 1,500 and 1,600 feet thick. Therefore, on the basis of either 1,995 to 3,205 feet or 1,640 to 3,275 feet the Baxter well is definitely through the Hygiene formation.

The base of the Hygiene (3,205 feet) has been used to predict the depth to the Niobrara between 5,100 and 5,300 feet, and to the top of the Muddy (first sand of Dakota series) between 6,100 and 6,300 feet. As soon as the exact top of the Niobrara is determined, more accurate predictions can be made as to the depth at which the top of the Muddy will be encountered.

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66w. T.D. 4,704 ft.; fsh. rec.; prep. to resume.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. Drlg. 4,345 ft.

Archuleta County

Chromo O. & G. Co. No. 1 Fitzhugh, C SW SW sec. 34-33n-1e. Cmtd. 12½-in. at 65 ft.
K. L. Kendrick No. 1 Crowley, sec. 2-32n-1e. S.D.O. at 1,208 ft.
Pagosa Oil & Dev. Co. No. 1 Macht, sec. 32-36n-1e. Cmtd. 12½-in. on bottom at 328 ft. and S.D.

Boulder County

J. B. Furstenberg No. 1 Foote, NE NW SE sec. 20-1n-70w. Drlg. 3,340 ft.

Cheyenne County

Gulf Oil Corp. No. 1 Union Pacific-Larson, C SE NW sec. 13-13s-49w. Spdg. 150 ft.; spd. Dec. 29.

El Paso County

Continental Oil Co. is reported having a seismograph crew working in the area to the southeast of Colorado Springs, where it took state leases on 9,000 acres last spring as part of a large block. State land is in Township 16s, Range 64w.

Grand County

Interstate Oil & Refining Co. No. 1 Hinman, on the Dirt Creek dome, near Kremmling, in Middle Park, which has been drilling intermittently since 1933, attracted attention when it encountered a show of wet gas with rainbows of oil at 2,340 feet. Gas burned 10 to 12 feet above casinghead. At present depth of 2,430 feet it is just entering a lime formation which the drillers identify as the top of the Niobrara. The 6¼-inch is being carried at 2,350 feet and the hole is dry at the present depth. Below the Niobrara the Codell, or Frontier of Wyoming, is expected.

Interstate Oil & Ref. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. Drlg. L. at 2,430 ft.

LaPlata County

N. Spatter No. 1 Bryce, SE SW SW sec. 31-33n-9w. Drlg. below 1,400 ft.; S.G. in gr. S.S. at 1,200-1,206 ft.; S.O. 1,280-85 ft.; S.G. 1,565 ft.

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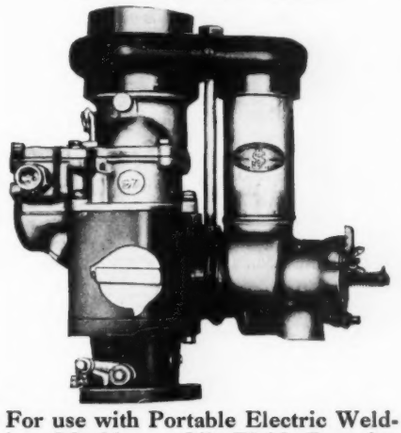

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J & S CARBURETOR COMPANY
705 ROSS AVENUE DALLAS, TEXAS

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61w. T.D. 2,100 ft.; prep. to run 10-in. to 1,870 ft.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. S.D. 2,860 ft.

Logan County

Transylvania Dev. Co. No. 1 Sheldon, SE NW SE sec. 3-10n-55w. Drk. up; W.O. drlg. contr.

Mesa County

Midwest Drlg. & Dev. Co. No. 1 Callahan, NE NW SE sec. 30-8s-97w. T.D. 3,337 ft.; rec. tools: drlg. ahead.
Continental Oil Co. et al No. 1 Miller, SW SW NW sec. 36-8s-91w. Cmtd. 13⅜-in. at 630 ft. with 480 sacks and S.D. for winter.

Moffat County

Morapas Pet. Co. No. 1 Coles, SW SW SE sec. 1-3n-92w. T.D. 2,670 ft.; U.R. 10-in. from 1,483 to 1,758 ft.
Kerr-Lynn Drlg. Co. No. 1 Denise, C SE SE sec. 19-9n-99w. T.D. 3,007 ft.; still in Wasatch; pulled 10-in. 1,355 ft.; 12½-in. in hole and S.D. for winter.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36n-17w. T.D. 3,830 ft.; rmg. at 3,790 ft. to test; 4¾-in. on bttm.; making about 3 B.P.D. 45-grav. oil; 830 ft. in Penn.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. 5,540 ft.

Pitkin County

Glenco Dev. Co. No. 1 Govt., NW cor. sec. 9-10s-89w. Drlg. 2,800 ft.

Pueblo County

Ed Solomon No. 1 Smith, E½ sec. 21-21s-60w. Bldg. rig.

Rio Blanco County

The Texas Co.-California Co. No. 1 Unit, on the Wilson Creek dome, in which was reported an important discovery in a 40-foot sand in the Morrison at 6,664-6,704 feet, is coring ahead slowly for the Sundance, which is expected slightly below 6,800 feet. Last reports from the field gave the depth at 6,785 feet and it is expected to pick up the objective tomorrow or the next day.

Buford Oil Co. No. 1 Govt., C SW SW sec. 16-1n-91w. S.D. 2,135 ft. until spring.
Texas Co. and California Co. No. 1 Unit, SW SE NW sec. 35-3n-94w. Cg. 6,785 ft.

Routt County

Major Oil Reserve No. 1 State, SW NW sec. 17-6n-86w. Bldg. rig; contr. to Westwick Drlg. Co. (M. J. Westwick, Santa Barbara, Calif.)
Craig & Moore No. 1 Erwin, C SW NE sec. 33-7n-85w. R.U.C.T.; will spud.

WYOMING

Albany County

Murphy Oil Co. No. 11 Holst, NE SW SE section 13-17n-77w, an outside well at the north end of the Quealy field, was completed in the Dakota at 3,366 feet, total depth. The 7-inch was set at 3,250 feet. On a short test it was estimated at 480 bbls. per day, open flow. It is a west offset to the same company's No. 9 Holst.

Ohio Oil Co. No. 2 Griffin, SW SE SW section 2-21n-77w, the second test drilled on the Foote Creek structure by this company this year, is being abandoned at 3,536 feet where it had water in the upper Tensleep. Top of the Pennsylvanian was at 3,497 feet. It is an offset to No. 1 Griffin, which had 50-degree dips at 2,050 feet, where it was abandoned.

G. R. McConnell No. 1 Govt., CWL SW SE sec. 6-15n-75w. S.D. 200 ft.
Wyco Oil Co., Inc., No. 3 Chappel, NE NE NW sec. 33-21n-76w. Drlg. 1,625 ft.; gas in Wall Creek 685-711 ft. not tstd.

Big Horn County

Ohio Oil Co. No. 3 Sidon Canal, NW SW (Lot 40), sec. 24-56n-97w. Loc.; W.O. rig.
Joan Oil Co. No. 1 Howell, sec. 32-55n-97w (Lot 63), S.D. 2,150 ft. for 10-in.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-97w. S.D. 3,930 ft.

Campbell County

Prescott & Mileski No. 1 Govt., NE NW SW sec. 1-51n-73w. Loc.
Powder River O. & G. Co. No. 1 Rhodes, NE SE SW sec. 24-49n-74w. S.D. 650 ft.

Carbon County

Sinclair-Wyoming Oil Co. No. 12-B Wertz, SE NW NW sec. 7-26n-89w. T.D. 520 ft.; cmtd. 13⅜-in
Ohio Oil Co. No. 1 C. E. Brimmer, C SW SE sec. 32-27n-89w. Rng. 4¾-in. to top Shannon at 1,470 ft.
Ohio Oil Co.-California Co. No. 4-A Kyle, 661 ft. from N line and 648 ft. from E line, sec. 26-21n-79w. Drlg. 795 ft.
Ohio Oil Co. No. 13 Harrison & Cooper, SW SE SW sec. 35-20n-78w. Cmtd. 6⅝-in. on bttm. at 3,077 ft.; 200 sax.
Ohio Oil Co. No. 2 Union Pacific, SW SW SE sec. 17-21n-80w. T.D. 4,534 ft.; cmtd. whipstock at 797 ft.; W.O.C.
Ohio Oil Co.-California Co. No. 4-B Kyle, C SW SW sec. 24-21n-79w. W.O. rig.
Ohio Oil Co.-California No. 6 Union Pacific-Johnson. C SW SE sec. 23-21n-79w. Drlg. 3,414 ft.
Producers Oil Co. No. 1, CNL sec. 14-20s-88w. Drlg. 194 ft.
Ohio Oil Co.-California Co. No. 5 Cronberg-U.P., C NW NW sec. 25-21-79w. S.D.O. 5,765 ft.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. S.D. 2,347 ft.

Converse County

Wyoming Southern Oil Co. No. 3 Salisburg, NE NE SE section 27-32n-69w, Shawnee district, was abandoned at 630 feet upon running into a fault plane. It was unable to shut off a thin water stratum between casing point and top of first sand and drilled on down to the second sand without results.

New Era Fuel Corp. No. 1 Layne, SE NW NE sec. 27-32n-69w. R.U.C.T.
New Era Fuel Corp. No. 1 Brown-Govt., NW SW NW sec. 25-37n-69w. T.D. 525 ft.; set 8¼-in. on top of sd.; showing for a gas well.
New Era Fuel Corp. No. 1 Gaspar, NW NW SW sec. 25-32n-69w. T.D. 435 ft.; rmg. hole for 8¼-in. to bttm. (formerly John T. Coffee, Jr.).
D. O. Gray No. 1 Wm. Lane, SW SE SE sec. 22-32n-69w. Spdg.
Chadron-Osage Oil Co. No. 1 O'Meara, NE NE sec. 28-32n-69w. Drlg. 200 ft.
Putnam et al No. 1 Probesh, SE SE sec. 29-32n-69w. M.I.M.
Kaufman & Quinlan Bros. No. 1 Lane, SE NW NE sec. 27-32n-69w. Loc.
Ainsworth Oil Co. No. 1 Marberger, NE SE NE sec. 34-32n-69w. T.D. 400 ft.; bailing.
Hail-Thornton et al No. 1 Roth, C NW SE sec. 13-32n-69w. T.D. 467 ft.; U.R. 8¼-in. to set at 420 ft.
Wyoming Southern Oil Co. No. 1 Lane, C NW NE sec. 27-32n-69w. Spd. and S.D.
Elbe Oil Ld. & Dev. Co. No. 1 Benham, NW NE sec. 5-31-70w. M.I.M.
Tom Carney No. 1 Beaver, SE SE SW sec. 28-35n-68w. Some material on loc.
Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. T.D. 4,060 ft.; cmtd. 8¼-in. at 4,040 ft.; W.O.C.

Fremont County

Sinclair-Wyoming Oil Co. No. 2-B Muskrat, NW NW NE sec. 4-33n-92w. T.D. 3,225 ft.; drlg. plug after cmtg. break in 12½-in. at 742 ft.
Stanolind O. & G. Co. No. 1 Govt., C SE SE sec. 3-33n-96w. Drlg. 6,575 ft.
Consolidated Oil Properties No. 3, C SW SE sec. 16-1n-1w. Drlg. 455 ft.
H. Kenyon Burch No. 1 Enos, CEL NE NE sec. 28-3n-1w. S.D.O. 970 ft.; no shows.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. S.D. 875 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 3,255 ft.

Hot Springs County

Delaware Oil Co. No. 1 Govt.-Skelton, SE SE sec. 2-43n-96w. Set 10-in. at 80 ft.
Italo Pet. Corp. No. 1 Phebus-Govt., NW NW SW sec. 11-44n-98w. T.D. 3,200 ft.; D.P. stuck; crd. sat. in top Tensleep.
Oscar B. Grace No. 4 Govt., CNL SE NW sec. 21-43n-92w. T.D. 380 ft.; fsg. bailer.
J. W. Bales No. 1 Govt., CWL SE SW sec. 28-43n-93w. Cmtd. 12½-in. at 60 ft.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will test S.O. in lenticular sd. at 397-401 ft.
H. C. Harris et al No. 1 Govt., SE NW NW sec. 32-21n-117w. Drlg. 234 ft.; loc. in Fossil dist. NW of Kemmerer.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-11w. Drlg. 1,350 ft.

Natrona County

Stanolind O. & G. Co. No. 11 Wyo. Asso. Tensleep, C NE NW sec. 35-40n-79w. T.D. 4,043 ft.; cmtd. 6⅝-in. at 4,032 ft.; tstg.
Stanolind O. & G. Co. No. 29 Wyo. Asso. Tensleep, C SW SW sec. 24-40n-79w. T.D. 4,100 ft.; cmtd. 6⅝-in. at 4,099 ft.; perf. pipe and tstg.
General Pet. Corp. No. 1 Govt., C NW SE sec. 21-35n-77w. T.D. 4,626 ft.; cmtd. 11¾-in. at 4,624 ft. with 500 sax.
Western Producers, Inc., No. 1 Govt., NW SW SE sec. 5-39n-78w. Drlg. 1,012 ft.
Stanolind O. & G. Co. No. 11 Wyo. Asso.-T.P.-35, C NE SW sec. 35-40n-79w. Drlg. 2,976 ft.
Stanolind O. & G. Co. No. 8 T.P.-Wyo.-Asso.-35, C NW NW sec. 35-40n-79w. Drlg. sh. 1,511 ft.

Niobrara County

The secretary of the interior has approved the agreement for the unit operation of the Sundance horizon in Lance Creek and the agreement becomes effective as of January 1, 1938. A committee representing the Argo, Continental and Ohio Oil companies are engaged in working out the details for placing the agreement into operation. Construction of compressor plant, laying of lines to key wells and the physical preparations will proceed as rapidly as possible. The plan is expected ultimately to be extended to the Minnelusa producing horizon. At present there are several operators who have production on the west side who are not parties to the agreement.

Continental Oil Co. No. 1 Leach, SW NE NE section 29-36n-64w, East Lance Creek, 5 miles east and north of the nearest Sundance producer, was completed in the Dakota at 3,808-95 feet for 8,480,000 feet of gas per day. It has been shut in. It was drilled to 6,434 feet and tested all horizons in the Pennsylvanian before plugging back. It was dry in the Sundance, topped at 4,178 feet, and in the Minnelusa. Elevation is 4,470 feet. It is only a short distance from a small well owned by the Argo Oil Co., which has been producing in the Muddy for a number of years. Wells drilled around the original discovery uncovered nothing of importance.

Continental Oil Co. No. 8 Rohlff, SE SE SE section 31-36n-65w, which showed for 129 bbls. per day in the Minnelusa on a three-sixteenths inch bean, at 5,139-5,242 feet, was acidized with 1,000 and 2,000 gallons and was completed for 675 bbls. per day. It is on the west side of the field and was noncommercial in the Sundance.

C. L. Price No. 1 Lamb, NE NW NW sec. 7-35n-65w. Drlg. 285 ft.; cmtd. 12½-in. at 283 ft.
Ohio Oil Co. No. 8 Converse Sheep, NE SE SW sec. 32-36n-65w. Drlg. 3,257 ft.
Ohio Oil Co. No. 2 Cash O.P.C.-5, NW NW NE sec. 4-35n-65w. T.D. 4,109 ft.; crd. heavy sat. in Sundance at 4,091-4,109 ft.; cmtd. 8⅝-in. at 4,077 ft.; W.O.C.
Continental Oil Co. No. 6-B Schuricht, SW SW SE sec. 6-35n-65w. Cmtd. 7-in. on top Minnelusa at 7,174 ft. with 600 sax.; W.O.C.
J. M. Huber Corp. No. 1 H. & M., NE NE NE sec. 8-35n-65w. W.O. rig.
J. M. Huber Corp. No. 1 Joss, NE SE NW sec. 6-35n-65w. T.D. 4,096 ft.; O.W.D.D.; M.I.R.
Lewis Goekel No. 1, NE SE NW sec. 31-35n-62e. Resumed drlg. 1,550 ft.
Minnelusa Oil Co. No. 3 Joss, NE NE SW sec. 6-35n-65w. T.D. 3,978 ft.; mkg. some oil with mud and w.; tstg.
Continental Oil Co. No. 3 Apex-1, SE SE NE sec. 34-36n-65w. T.D. 5,480 ft.; fsg.
W. A. Maupin et al No. 1 Berggren, NW sec. 23-35n-63w. Drlg. 180 ft.
Minnelusa Oil Co. No. 1-A Lamb, NE SE SW sec. 27-36n-65w. T.D. 5,470 ft.; tstg.
Ohio Oil Co. No. 2 Leo-O.P.C., NE NE SE sec. 35-36n-65w. Rig; stdg.
MacKennie Oil & Dev. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. T.D. 5,278 ft.; cmtd. 7-in. 5,271 ft.; prep. to drill plug and complete.
MacKinnie Oil & Drlg. Co. No. 3 Thompson, NW NW NE sec. 7-35n-65w. Cellar and pits; W.O. tools.

Park County

Resolute Oil Co. No. 4 Northern Pacific, C NE NW sec. 2-57n-101w. S.D. 8,657 ft.
Resolute Oil Co. No. 3 Govt., C NE NE sec. 20-57n-101w. S.D. 8,670 ft.
Ohio Oil Co. No. 4 Mack-O.P.C.-4, NE NW NE sec. 30-58n-99w. Cmtd. 12½-in. at 255 ft.; W.O.C.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 2,415 ft.; C.D.

Sweetwater County

Mountain Fuel Supply Co. No. 1 John W. Hay, Jr., NE SE NW section 2-18n-110w, a wildcat on the Black Fork structure 35 miles west of Rock Springs, is being abandoned at 5,330 feet without encountering any shows. It went out of the Wasatch into the Upper Tertiary at 5,130 feet and stopped 200 feet in the Laramie.

Several of the wells in the Baxter Basin are shut down at shallow depths indefinitely following the extension of permits by the secretary of the interior. They were started to validate government permits.

Rocky Mountain Drlg. Co. No. 1 Lee, NE NW SE sec. 10-19n-104w. W.O. rig bldrs.
Mountain Fuel Supply Co. No. 1 Agnes Fay, 330 ft. from E line and 1,980 ft. from S line, sec. 18-18n-103w. Drlg. 397 ft.
Rocky Mountain Drlg. Co. No. 1 Osborne, SE SE SE sec. 12-18n-104w. Drlg. 2,381 ft.
Mountain Fuel Supply Co. No. 1 Hoyt, SW SW SW sec. 32-19n-103w. Drlg. 1,172 ft.
Mountain Fuel Supply Co. No. 1 Lauzer, NW NW NW sec. 30-18n-103w. Drlg. 1,840 ft.
Mountain Fuel Supply Co. No. 1 Clark, NW SE SW sec. 12-19n-104w. S.D. 300 ft.
Italo Pet. Corp. No. 1 Govt., SW SW SW sec. 36-13n-95w. S.D. 610 ft.
Sinclair-Wyoming Oil Co. No. 77, SE NE NE sec. 10-26n-90w. Drlg. 3,728 ft.; top Embar 3,665 ft.
Mountain Fuel Supply Co. No. 1 Ellis, SE SE SE sec. 8-18n-109w. S.D. 100 ft.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SW SE sec. 13-17n-104w. T.D. 3,330 ft.; P.B. to 3,241 ft.; S.D. for winter.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SE NE sec. 29-15n-104w, S of Baxter Basin. Loc.

Uinta County

E. A. Ottman et al No. 1 Govt., C SE NW sec. 26-14n-110w. Drlg. 1,230 ft.; S.S.O.

Washakie County

Lewis Storm No. 1 Brome, C SE SW sec. 30-48n-90w. S.D. 1,750 ft. for csg.

Weston County

Osage Trust Co. No. 28, C NE SW sec. 14-46n-64w. Loc.
Chas. F. Martens No. 8, SW SW NW sec. 24-36n-64w. Loc.
Osage Trust Co. No. 1, SE NW NE sec. 22-36n-64w. Drlg. below 100 ft.
Bradley-Maneval Oil Co. No. 7, CWL NE NE sec. 20-46n-63w. R.O.G.
Federal Oil Co. No. 9, CNL SE SE sec. 15-46n-64w. R.O.G.
Chas. Goodell et al No. 1 State, C NE NE sec. 23-44n-63w. Ready to spud.
John Brorphy No. 1 George, SW SE NW sec. 26-48n-64w. Drlg. 1,862 ft.; H.F.W.
Sisty et al No. 1 Carmine, SE SW sec. 31-44n-62w. Drlg. 850 ft.
Le Faivre Oil Synd. No. 1 Martin, NW NW SW sec. 29-45n-68w. Drlg. 2,550 ft.; will U.R. 10-in. at 2,130 ft. for water S.O.
Giles & Proutt No. 1 Govt., CEL SW NE sec. 29-45n-61w. S.D. 179 ft.
T. L. Hopkins No. 1, CNL NE NE sec. 36-47n-63w. Spd. and S. D.
Henry Egert No. 6, C NE SE sec. 8-46n-63w. Spd. and S.D.

MONTANA

Big Horn County

P. O. Oil & Gas Co. No. 1, NW NE NE sec. 25-9s-35e. Drlg. 337 ft.; 8¼-in. cmtd. at 189 ft.
E. L. Dana No. 1 Hardy, SW NW sec. 22-9s-35e. S.D. 700 ft.

Carbon County

R. C. Tarrant No. 2 Heare, NW SE NW sec. 14-6s-10e. Drlg. 1,610 ft.

Miracle Oil Co. No. 2, CWL NE SE sec. 3-6s-23e. S.D. 1,640 ft.
Geo. Muth et al No. 1, CSL SE SE sec. 23-6s-23e. S.D. indef. at 1,500 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 1,626 ft. for 8¼-in.; top Frontier 1,608 ft.; small S.O.
Sha-Wa Pet Co. No. 1 Govt., SW SW NE sec. 35-9s-23e. T.D. 2,100 ft.; U.R. 10¾ ¾-in. to bottom.
Sha-Wa Pet. Corp. No. 2 Govt., SW SE NE sec. 35-9s-23e. Loc.; Greybull sd. test.

Choteau County

Security Pet. Co. No. 1 Johnson, NE sec. 23-26n-2e. S.D. 1,690 ft. (C.D.) for winter.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. T.D. 750 ft.; fsg. tools.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW sec. 10-36n-50e. Drlg. 1,675 ft. after rng. 10-in.

Fergus County

Lewistown Oil Co. No. 1 Parks, C NE NE section 13-15n-18e, Flathead district, was plugged and abandoned after encountering a flow of 25,000 bbls. of water per day at 1,500 feet, total depth.

Baughman & Singely No. 1 Skaggs, C NW SW sec. 7-15n-20e. Set 6¾-in. at 400 ft.
East Crest Oil Co. No. 1 Brakke, NW SE SW sec. 14-15n-19e. Drlg. 640 ft.
White Top O. & G. Co. No. 1 Govt., C NE SW sec. 35-14n-19e. S.D. 1,450 ft.
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21n-18e. Drlg. 700 ft. in Eagle.

Glacier County

Glacier Prod. Co. No. 1 Reynolds, 2,490 ft. W. of E line, 1,320 ft. N of S line. Drlg. 2,565 ft.
A. B. Cobb No. 1 State, C NE NE sec. 30-37n-4w. T.D. 2,592 ft.; S.D. until spring.
Jack Marshall No. 2, All.-119, SE SE NW sec. 1-32n-6w. Spdg.

Hill County

W. E. Drought No. 1, SE NW SE sec. 29-32n-16e. Drlg. 1,040 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. Drlg. 1,875 ft. in Upper Madison.

Lewis and Clark County

Lewis & Clark Oil Synd. No. 1 Lewis & Clark, NW NW SW sec. 11-18n-5w. Drlg. 1,190 ft.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. S.D. 1,250 ft.

Petroleum County

O. B. Canfield No. 2 Govt., SE SE NE sec. 21-17n-24e. Drlg. 750 ft. set 5 5/16-in. for W.S.O.

Toole County

One well, better than the average, was completed in the Kevin-Sunburst field, on the west side, in the New Era Fuel Corp. No. 3 Goeddertz, C SE SW section 12-35n-3w, which flowed 80 bbls. naturally from the Sunburst at 1,520 feet.

R. G. Parrant No. 1 Anderson, C SW SE sec. 26-35n-4w. S.D. 90 ft. (first report).
Henry Vander Pas No. 1 Thompson, SE NW NW sec. 33-35n-3w. Drlg. 600 ft. (first report).
E. O. Phelps No. 1 Govt., C NE SE sec. 25-36n-3w. S.D 10 ft. (formerly Guy Smith).
Coeur d'Alene Oil Trust No. 2 Anderson, NE SW SW sec. 8-35n-1w. Drlg. 1,470 ft.
West Kevin Community Lease, Inc., No. 1 McClary, SE NE NW sec. 3-34n-4w. Drlg. 160 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE sec. 26-35n-4w. Spdg.
Big West Oil Co. No. 7 McDonald, NW NE NE sec. 19-35n-2w. S.D. 1,617 ft.
Welch Bros. No. 2 Ward, SW SE NE sec. 29-35n-3w. S.D. 1,655 ft.
Plotke & Rader No. 11 Fryberger, NW SE SE sec. 29-35n-3w. S.D. 1,698 ft.; S.O.
Hamilton & Hamilton No. 4 Reeg, SE SW SE sec. 14-35n-2w. S.D. 450 ft.
C. T. Olen No. 7 Engemoen, C NW NW sec. 14-35n-2w. T.D. 1,607 ft.; contact 1,591 ft.
E. O. Reichoff No. 5 Baum, SW SW SE sec. 3-35n-3w. S.D. 10 ft.
Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier mach. to resume.

Outside Kevin-Sunburst

Montana Gas Corp. No. 2 Clark, C SE SW sec. 24-37n-1w. S.D. 2,180 ft.

Yellowstone County

Riverton Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. Top Dak. 1,800 ft.; rng. csg.
Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. Drlg. 4,142 ft. in Tensleep.
Lauriel Oil Co. No. 1, C NW SW sec. 7-2s-24e. S.D. 200 ft.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 3-B Murphy, NW NW SW sec. 23-3n-24e. Cmtd. 13⅜-in. at 323 ft. and S.D. for winter.
Sormir Pet. Corp. No. 1 State, SE SE NW sec. 16-3n-24e. Loc. to be drilled next spring.

Grand County

The Colorado-Utah Exploration Co. is moving in rig for a test on the Salt Valley structure. Location is half a mile southeast of the Utah Southern Oil Co. No. 1 Balsey, which showed for 25 bbls. per day of 36.8-gravity green oil at around 3,400 feet. Showing settled to 15 bbls. and hole was drilled deeper.

Colorado-Utah Exploration Co. No. 1 Leib-Govt., SW sec. 32-23n-21e. M.I. rig. (first report).
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. E.D. 6,715 ft.
Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. T.D. 2,400 ft.; drlg. by bit.
Cane Creek Oil Co. No. 1 Govt., NW SW sec. 31-26n-21e. T.D. 857 ft.; rmg. to set 12½-in.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. T.D. 2,502 ft. in sh.; prep. to lower 6⅝-in. for W.S.O.

NEBRASKA

Keith County

Twentieth Century Oil Co. No. 1 Stuken, C NW NW sec. 21-14n-37w. Drlg. 1,700 ft.

Jefferson County

L. R. Page et al No. 1 Bonham, C SE SE sec. 1-1n-1e. U.R. 6-in. csg. 3,203 ft.

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Drlg. 3,005 ft. in Upper Morrison.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE sec. 3-154n-96. Drlg. below 5,760 ft.

West Texas Fields

(Continued from Page 87)

O. Clapp, 2,990-3,099 feet, 3 bbls. per day and 9,300,000 feet of gas. Humble Oil & Refining Co. No. 5-D Walton, 2,777-2,990 feet, 778 bbls. per day. Magnolia Petroleum Co. No. 118 Walton, 2,835-2,945 feet, 845 bbls. per day; No. 117 Walton, 2,843-2,930 feet, 400 bbls. per day. Humble Oil & Refining Co. No. 25-C N. R. Colby, 2,777-30 feet, 501 bbls. per day. Magnolia Petroleum Co. No. 119 Walton, 2,830-2,900 feet, 866 bbls. per day.

In the Henderson field, W. K. Royalty Co. No. 6-A Walton, 2,885-3,014 feet, 2,283 bbls. per day.

In the Hendricks field, Humble Oil & Refining Co. No. 11-B N. R. Colby, 2,714-3,052 feet, 470 bbls. per day.

In the Kermit field, Illinois Oil Co. No. 16-A Central State Bank of Abilene, 2,790-3,080 feet, 1,129 bbls. per day. Atlantic No. 1-L Hendrick, 2,905-3,215 feet, 353 bbls. per day. Magnolia Petroleum Co. No. 133 Walton, 3,140-3,215 feet, 411 bbls. per day. Magnolia Petroleum Co. No. 114 Walton, 3,155-3,210 feet, 476 bbls. per day. Magnolia Petroleum Co. No. 116 Walton, 2,840-2,910 feet, 411 bbls. per day. Humble Oil & Refining Co. No. 24-C N. R. Colby, 2,804-3,075 feet, 1,427 bbls. per day.

In the Keystone field, Carter No. 19 Walton, 2,805-90 feet, 17,000,000 feet of gas.

Yoakum County

Denver Producing & Refining Co. No. 2 Whittenburg, 4,900-5,098 feet, 661 bbls. per day.

Wildcats, Skelly and Sun Oil Co. No. 1 Kiser was dry and abandoned at a total depth of 5,300 feet. Toddie L. Wynne No. 1 A. C. Thomas, 4,965-5,026 feet, 162 bbls. per day.

Oklahoma Fields

(Continued from Page 83)

sand at 3,458 feet, total depth 3,482 feet, and was completed as a 200-bbl. well the week ending December 25.

Caddo County

Ohio Oil Co. No. 2 Blackey, Account 3, NE SE NW section 11-5n-9w, Caddo County, was building rig.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Jan. 3.—Production of crude petroleum and natural gasoline in Canada in October aggregated 342,452 bbls. compared with 298,753 bbls. in September and 137,004 bbls. in October, 1936. For the 10 months of 1937 the production for all Canada was 2,233,557 bbls. compared with 1,239,051 bbls. in the same period of 1936.

New Brunswick production declined from 3,862 bbls. in September to 3,653 bbls. in October; for the 10 months it increased from 13,884 bbls. to 20,162 bbls. Ontario production was down from 13,737 bbls. in September to 13,076 bbls. in October, and declined also from 138,099 bbls. in the 1936 period to 138,057 bbls. this year. Alberta production increased from 281,154 bbls. in September to 325,723 bbls. in October; and for the 10 months of 1937 it was 2,075,338 bbls. compared with 1,081,669 bbls. the previous year.

Turner Valley Producers

On the west flank of South Turner Valley, Sunset Oils No. 1, LSD 10, section 20-18-2w5, was finished at 7,475 feet after getting the Madison limestone at 7,017 feet. Three-inch tubing was run. Gas flow was estimated between 6,000,000 and 8,000,000 feet and settled natural production may be around 1,000 bbls. per day. Location is well down the flank, in line with the Commoil and Royal Canadian producers, and a half mile west of the first crude wells, and the large production in these three outlying tests confirms the theory that larger production lies west of the proven field. The completion brings the Turner Valley potential production to 30,000 bbls. a day.

Farther north, West Flank Oil Co. No. 3, LSD 8, section 32-18-2w5, finished in the black lime at 6,870 feet, after getting the Madison at 6,429 feet. Tubing was run and the hole cleared by gas lift. No official estimate of production has been given out but it looks like a large well. In the same section, West Flank No. 1, LSD 1, tested 425 bbls. potential, prorated at 149 bbls.

In the southwest extension, Royal Canadian Oils No. 1, LSD 15, section 20-18-2w5, which recorded a potential of 764 bbls., prorated at 267 bbls., has been acidized, with early indications of a substantial increase in production.

In section 29-18-2w5, Granville Oils No. 1, LSD 16, which had a potential of 408 bbls., has been given a second acid treatment. It developed 550 bbls. flush production, and is being tested for potential. Commoil No. 1, LSD 15, same section, producing on a tentative basis of 1,301 bbls. potential and 455 bbls. prorated, has been acidized, and is waiting for official test.

Tests in the Lime

In West Central Turner Valley, Brown Oil Corp. No. 3, LSD 15, section 19-19-2w5, is preparing to resume after cementing casing at 6,340 feet, 5 feet in the limestone.

In section 32-18-2w5, West Flank Oil Co. No. 2, N half LSD 1, got the Madison limestone at 6,542 feet and cemented casing at 6,562 feet. Location is midway between Nos. 1 and 3 producers.

In section 28-18-2w5, Richland Royalties No. 2, LSD 5, offsetting B. & B. Co. No. 1 producer to the south, is below 6,540 feet after cementing in the top of the lime at 6,420 feet.

West Side Drilling

In West Central Turner Valley, section 32-18-2w5, Royalite Oil Co. No. 28, LSD 16, is below 4,841 feet. Royalite No. 30, LSD 11, is starting derrick. West Turner No. 2, LSD 7, is spudding. West Turner No. 3 has been located in LSD 3, same section.

In section 20-18-2w5, Spy Hill Royalties No. 1, LSD 16, is below 5,965 feet. United Brown Petroleums No. 5, LSD 1, is below 1,202 feet. York Oils No. 1, LSD 2, is working on cellar.

In section 17-18-2w5, Sundance Royal-

ties No. 1, LSD 9, is rigged with rotary outfit. Coronation Royalties No. 1, LSD 10, has rotary rigged.

In section 16-18-2w5, Frontier Royalties No. 1, LSD 11, offsetting Brown Oil Corp. No. 1 producer, is working on cellar. In the same section, W. Fay Becker and associates of Calgary are arranging for completion of Richwell Oil Co. No. 1, LSD 5, standing at 1,728 feet. Okalta Oil Co. No. 7, LSD 3, is laying gas and water lines, and will spud early this month. Okalta No. 8, LSD 6, is working on derrick.

In section 9-18-2w5, National Petroleum Corp. No. 2, LSD 14, has rotary equipment rigged, to resume from 3,005 feet. Mid-Royal Oils No. 2, LSD 3, is below 280 feet.

In section 33-17-2w5, Davies Petroleums No. 3, LSD 7, has cable tools rigged and is laying gas lines, to spud early this month.

Okalta Fold

On the Okalta fold, west of the main Turner Valley structure, Scottish Petroleums No. 1, LSD 16, section 19-18-2w5, is below 251 feet.

North Turner Valley

In North Turner Valley, Royalite Oil Co. No. 29 Turner Basin, LSD 7, section 27-20-3w5, is below 2,262 feet. Phillips Royalties No. 1, LSD 16, section 16-20-3w5, is below 4,200 feet, after sidetracking.

New Drilling Planned

Royalite Oil Co., western subsidiary of Imperial Oil, Ltd., has acquired several additional drilling sites on the Turner Valley west flank, mostly in return for Royalite stock. The properties acquired include LSD 5, section 29-18-2w5, for which 750 shares were issued; LSD 3, same section, in exchange for 1,100 shares; and LSD 4, for 750 shares. The first two locations are in the third line of subdivisions in section 29, approximately three-fourths mile west of the original crude oil producers; and LSD 4 is a mile west of Model-Spooner-Reward No. 1 producer. All are further west than any drilling yet undertaken in the crude oil area except Royalite No. 30, in section 32-18-2w5.

Commonwealth Petroleum Corp. of Calgary is taking over a controlling interest in the acreage and unfinished well of Command Oils in LSD 14, section 29-18-2w5, a short distance west of Commoil No. 1 producer, which is also controlled by the Commonwealth company. Command No. 1, standing for several months at 810 feet, will resume work early in 1938. Alco Oils is arranging for a test in LSD 13, west of Command No. 1.

Mission Oil Co. of Canada, Ltd., is being incorporated as a subsidiary of Anglo-Canadian Development & Holding Co., to develop 5,000 acres secured from the Anglo-Canadian company. The Foundation, Monarch, Firestone and Prairie companies will hold stock interests. Mission Oil Co. is planning to drill two tests, one in section 31-18-2w5, west of Okalta Oil Co. No. 6, and another in section 33-16-2w5, south of Davies Petroleums No. 3. These tests will be respectively the farthest south yet undertaken in the Turner Valley field.

East Side Drilling

On the Calling Valley structure east of Turner Valley, Sentinel Oil Co. No. 1, LSD 1, section 8-20-2w5, is below 6,300 feet and logging satisfactorily. Production is expected at somewhat greater depth than on the Turner Valley west flank.

On the Aldersyde structure, Ranchmen Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is preparing to resume from 7,230 feet some time in January, using heavy duty cable tools. Shows of white crude were met at 6,263 and 6,315 feet, brownish crude at 6,700 feet and greenish crude at 7,170 feet. The hole has been standing in the top of the Dalhousie sand with the Madison limestone expected around 7,350 feet. It is logging higher than Arca Development Corp. No. 1 on the Cayley structure, farther south and east, which got the Madison lime at 8,756 feet and was abandoned at 8,991 feet.

Tests in the Foothills

In the northern foothills, on the Brazeau structure west of Edmonton, Home Oil Co. No. 1 Brazeau, LSD 16, section 7-43-17w5, is below 100 feet.

On the Duncan structure, Spindletop Oils No. 1, LSD 4, section 1-30-6w5, is hauling fuel, and will resume early in January from 2,315 feet.

On the Moose dome, Model Oils No. 1 Canyon, LSD 16, section 30-22-6w5, is resuming from 184 feet after the holiday shut down.

On the Birch Ridge structure, Elbow Oils No. 1, LSD 11, section 35-22-5w5, is resuming. Casing will be run to 5,312 feet, and a production test made of the brown sand of the Dalhousie formation before deepening to the Madison.

On the Highwood-Sinclair structure, southwest of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, section 34-17-3w5, has resumed from 4,802 feet after the holiday shut down. It has a strong gas flow from the Dalhousie sand, and is expected to get the Madison limestone around 5,000 feet.

On the Watson structure, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, has arranged to resume from 5,520 feet. Production is expected around 6,000 feet, though considerable gas has already been met in the upper horizons.

Border Fields

In the Taber field, southern Alberta, Plains Petroleum Corp. No. 3, section 25-9-17w4, set casing on top of the Clancey sand at 3,205 feet. It was deepened 4 feet when crude rose 200 feet in the hole, but later water came in, and it was decided to shut off the flow and deepen to the Ellis.

On the Rogers-Imperial structure, just north of the Montana boundary, Range Oil & Gas Co. No. 3, LSD 15, section 20-1-11w4, is below 720 feet and planning to run 12-inch casing to 900 feet. Location is a little southwest of the Range No. 1 (Rogers Imperial) gasser.

Blood Reserve Project

Treaty Petroleums, Ltd., of Toronto and Calgary will start work early this year on 26,000 acres of potential oil and gas land on the Blood Indian Reserve in southern Alberta. The Reserve lies between the St. Marys and Belly rivers, southwest of Lethbridge; and Lethbridge Petroleum & Refining No. 1 well, LSD 12, section 11-8-22w4, standing at 2,311 feet, is just across the river from the acreage. Some $70,000 has been spent in geological work on the Blood Reserve structure and adjacent acreage, reports having been made by Eugene Coste, J. O. G. Sanderson and Joseph S. Irwin, and numerous structure tests drilled. Officers of the company include: Newton Wylie, Toronto, president; Dr. W. E. Spankie, Calgary, vice president; Lionel C. West, Toronto, and H. S. Price, Calgary, directors.

East-Central Alberta

On the Battleview structure, east-central Alberta, Pacalta Oils No. 1, LSD 3, section 5-48-5w4, is below 1,800 feet and nearing the potential producing horizon, encountered in Battleview No. 1 discovery well at 1,893 feet. South End Petroleums No. 1, LSD 10, section 32-47-5w4, has spudded. Battleview Oils No. 2 is moving in equipment.

In the Wainwright field, Waintown Oil & Gas Co. No. 1, section 16-50-7w4, is drilling.

Ontario Drilling

In Brant County, Ontario, Nottawa Oil & Gas Co. of Toronto has finished a shallow well with a flow of 20,000 feet a day, with traces of oil. Nottawa No. 2 is drilling in the same area.

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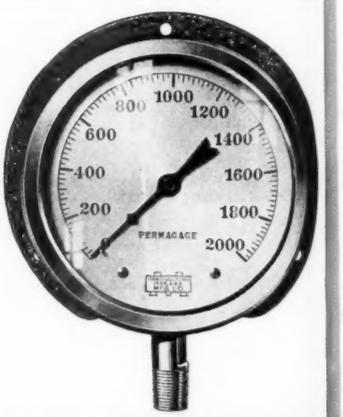

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Hancock-Bush, No. 2-C.L. Santa Maria, Santa Barbara	30-10-33	4,353	redrlg. 3,415
Hancock-Bush, No. 3-H Santa Maria, Santa Barbara	30-10-34	4,101	sd. sh. drlg.
Ohio Oil, No. 3-M Santa Maria, Santa Barbara	21-10-34	2,080	sd. sh. drlg.
Mitchell, A. D., No. 2-W Santa Maria, Santa Barbara	27-10-34	4,610	sd. sh. drlg.
Pet. Prop., Inc., No. 1-R Santa Maria, Santa Barbara	19-10-33	2,321	P.B. 2,200
Sunshine Oil, No. 2-W Santa Maria, Santa Barbara	27-10-34	4,403	flow 1,005 b.d.
Jones, Frank, No. 1 Santa Maria, Santa Barbara Co.	26-10-34	5,090	flow. 575 b.d.
Jones, Frank, No. 2 Santa Maria, Santa Barbara Co.	26-10-34	161	sd. sh. drlg.
Moore, E. H., No. 4 Sugar, Santa Maria, Santa Barbara	19-10-34	5,531	pump. 310 b.d.
Moore, E. H., No. 5 Sugar, Santa Maria, Santa Barbara	25-10-34	5,991	sd. sh. drlg.
Pet. Sec., No. 1-R Santa Maria, Santa Barbara Co.	35-10-34	4,829	sd. sh. drlg.
Signal Oil, No. 1-H Santa Maria, Santa Barbara Co.	26-10-34	4,432	pump. 640 b.d
Signal Oil, No. 1-Romalho, Santa Maria, S. Barbara	27-10-34	3,296	sd. sh. drlg.
Union Oil, No. 1-A Santa Maria, Santa Barbara Co.	22-10-34	3,260	sd. sh. drlg.
Union Oil, No. 2 Bradley, Santa Maria, Santa Barbara	25-10-34	4,680	sd. sh. drlg.
Union Oil, No. 1 Sec., Santa Maria, Santa Barbara Co.	20-10-34	4,933	sd. sh. drlg.
Union Oil, No. 17 Cal. Coast, Orcutt, Santa Barbara	26- 9-34	4,320	sd. sh. drlg.
Cole, F. E., No. 16 Santa Maria, Santa Barbara Co.	23-10-34	2,146	sd. sh. drlg.
Getty, George F., No. 2-V Santa Maria, Santa Barbara	27-10-34	2,118	sd. sh. drlg.
Pac. West Oil, No. 6-H Santa Maria, Santa Barbara	27-10-34	4,702	sd. sh. drlg.
Pac. West Oil, No. 2-D.P., Santa Maria, Santa Barbara	27-10-34	4,256	flow. 2,650 b.d.
Crude Oil Drlg., No. 1 Casmalia, Santa Barbara Co.	19- 9-34	1,410	P.B. 845
Pima Drlg., No. 1-M Casmalia, Santa Barbara Co.	13- 9-35	1,121	sd. sh. drlg.
Standard Oil, No. 1 Cat Canyon, Santa Barbara Co.	27- 9-33	2,462	sd. sh. drlg.
Field, O. C., No. 2 Gato Ridge, Santa Barbara Co.	4- 8-32	4,480	pump. 420 b.d.
Tweedy, A. E., No. 1 Penn, Capitan, Santa Barbara	34- 5-31	397	reaming
Texas Co., No. 134 Shiells, Ventura Co.	4- 3-19	4,480	P.B. 4,259
High Mesa Oil, No. 1 Ojai, Ventura Co.	16- 4-22	1,230	hd. sd. drlg.
Richfield Oil, No. 1 McFarland, Camarillo, Ventura	13- 2-21	6,791	gr. sd. drlg.
South Cal. Drlg., No. 1 Daly, Camarillo, Ventura Co.	26- 2-21	3,086	idle
Texas Co., No. 1 Edwards, Camarillo, Ventura Co.	19- 2-21	5,220	sd. sh. drlg.
Trucano, G., No. 1 Simi, Ventura Co.	5- 2-17	300	sd. sh. drlg.
Stallings & Senter, No. 1 Timber Canyon, Ventura	24- 4-21	341	sd. sh. drlg.
Section 20 Oil, No. 1 Sespe, Ventura Co.	20- 5-19	1,000	hd. sh. drlg.
Spelk Oil, No. 2 Sespe, Ventura Co.	33- 5-19	3,450	rig. to pump
Colima Oil, No. 2 Sespe, Ventura Co.	25- 5-19	3,500	fishing
Topa Topa Oil, No. 3 Sespe, Ventura Co.	33- 5-19	3,300	pump. 10 b.d.
Skyline Oil, No. 1-H Hopper Canyon, Ventura Co.	13- 4-18	2,075	sd. sh. drlg.
Commander Oil, No. 6-F Hopper Canyon, Ventura Co.	13- 4-19	2,053	resume work
Continental Oil, No. 8-A Grubb, S. Miguelito, Ventura	24- 3-24	4,572	sd. sh. drlg.
C. C. M. Oil, No. 11 Rincon, Ventura Co.	17- 3-24	4,166	P.B. 4,055
Vaca Oil, No. 1 Lennox, Oxnard, Ventura Co.	6- 1-21	2,890	pump. 50 b.d.
Tide Water A. O., No. 19 V.L.W., Ventura, Ventura	26- 3-23	3,861	sd. sh. drlg.
Tide Water A. O., No. 32 V.L.W., Ventura, Ventura	24- 3-23	7,180	O.S. drlg.
Tide Water A. O., No. 69 Lloyd, Ventura, Ventura	27- 3-23	4,897	sd. sh. drlg.
Tide Water A. O., No. 135 Lloyd, Ventura, Ventura	27- 3-23	8,282	hd. sh. drlg.
Tide Water A. O., No. 138 Lloyd, Ventura, Ventura	23- 3-23	6,432	hd. sh. drlg.
Tide Water A. O., No. 18 Hartman, Ventura, Ventura	22- 3-23	9,455	O.S. drlg.
Shell Oil, No. 92 Taylor, Ventura Ave., Ventura Co.	20- 3-23	7,930	sd. sh. drlg.
General Pet., No. 13 Notten, Ventura Ave., Ventura	28- 3-23	9,650	sd. sh. drlg.
Tide Water A. O., No. 9-C-W Lost Hills, Kern Co.	11-26-20	1,375	pump. 105 b.d.
Amerada Pet., No. 5 Beer, Devils Den, Kern Co.	22-26-19	5,600	br. sh. drlg.
Little Major Oil, No. 1 Devils Den, Kern Co.	36-25-18	236	sd. sh. drlg.
Rocima Oil, No. 1 Laymance, McKittrick, Kern Co.	20-30-22	1,294	sd. sh. drlg.
Par Mer Oil, No. 1 McKittrick, Kern Co.	6-31-22	2,068	fishing
Standard Oil, No. 2 Randolph, Semi-Tropic, Kern Co.	14-27-23	8,196	sd. sh. drlg.
Continental Oil, No. 2 KCL, Wasco, Kern Co.	8-27-24	11,584	cleaning out
Chico-Martinez Oil, No. 1 South Belridge, Kern Co.	1-29-20	439	sd. sh. drlg.
Ohio Oil, No. 1 Ford, South Belridge, Kern Co.	6-29-22	2,027	sd. sh. drlg.
Johnson, G. W., No. 1 Temblor, Kern Co.	33-29-20	1,047	sd. sh. drlg.
Belridge Oil, No. 27-7 North Belridge, Kern Co.	27-27-20	4,560	br. sh. drlg.
Belridge Oil, No. 27-8 North Belridge, Kern Co.	27-27-20	6,000	br. sh. drlg.
Belridge Oil, No. 27-61 North Belridge, Kern Co.	27-27-20	7,441	br. sh. drlg.
Belridge Oil, No. 28-1 North Belridge, Kern Co.	28-27-20	6,130	O.S. drlg.
Tide Water A. O., No. 7 Reward, No. Belridge, Kern	34-27-20	7,000	br. sh. drlg.
Tide Water A. O., No. 1-21 North Belridge, Kern Co.	21-27-20	7,060	br. sh. drlg.
Tide Water A. O., No. 2-21 North Belridge, Kern Co.	21-27-20	5,195	br. sh. drlg.
Richfield Oil, No. 1-A North Belridge, Kern Co.	22-27-20	4,270	sd. sh. drlg.
Texas Co., No. 2 Martin, North Belridge, Kern Co.	22-27-20	6,983	br. sh. drlg.
General Pet., No. 1 St. Helens, Belridge, Kern Co.	12-28-20	5,591	sd. sh. drlg.
Eastmont Oil, No. 5 Olcese, Round Mtn., Kern Co.	16-28-29	1,163	sd. sh. drlg.
McDonald, J. A., No. 2 Bell, Round Mountain, Kern	12-28-28	1,291	sd. sh. drlg.
Link Trucking, No. 1 Round Mountain, Kern Co.	30-28-29	1,695	idle
Shell Oil, No. 19 Caldwell, Round Mountain, Kern Co.	7-28-29	1,835	sd. sh. drlg.
Cal-Western Oil, No. 4 Kernco, Round Mtn., Kern Co.	13-28-28	1,929	rig. to pump
Vedder, D. G., No. 3 Bell, Round Mountain, Kern Co.	12-28-28	1,950	sd. sh. drlg.
Marcan Oil, No. 2 C.L. Round Mountain, Kern Co.	12-28-28	2,014	rig. to pump
Rowepet Oil, No. 1 Round Mountain, Kern Co.	24-28-28	2,463	dry; abd.
Standard Oil, No. 27 Kern Front, Kern Co.	15-28-27	2,230	cleaning out
Shell Oil, No. 22 Security, Kern Front, Kern Co.	16-28-27	1,730	pump. 100 b.d
V. & W. Oil, No. 1 Robinson, Kern Front, Kern Co.	28-28-27	1,852	sd. sh. drlg.
California Star Oil, No. 3-80 Kern Front, Kern Co.	22-28-27	2,755	cleaning out
Fuhrman, A., No. 11 Kern River, Kern Co.	28-28-28	705	dry; abd.
Sunset Oil, No. 3-1 Wells, Mount Poso, Kern Co.	3-27-28	1,484	bailing
North American Oil, No. 1 Mount Poso, Kern Co.	26-27-27	1,296	sd. sh. drlg.
Pebble Beach Oil, No. 6 Newhope, Mount Poso, Kern	29-27-27	2,462	redrlg. 2,553
Western Gulf Oil, No. 30-B KCL, Fruitvale, Kern Co.	14-29-27	3,045	O.S. drlg.
Western Gulf Oil, No. 7-R.R., Fruitvale, Kern Co.	14-29-27	3,415	deepening
Pacific O. & G., No. 1-F Fruitvale, Kern Co.	14-29-27	1,998	sd. sh. drlg.
Section Six Oil, No. 1 Johnstone, Mtn. View, Kern Co.	6-31-29	7,564	gr. sd. drlg.
Texas Co., No. 1 Bastain, Mountain View, Kern Co.	34-30-29	1,007	sd. sh. drlg.
Hogan Pet., No. 5 Symons, Mountain View, Kern Co.	4-31-29	6,129	P.B. 5,310
Hogan Pet., No. 5 Bankline, Mountain View, Kern Co.	4-31-29	5,500	flow. 420 b.d.
General Pet., No. 1 Houchin, Arvin, Kern Co.	27-31-29	7,361	flow. 106 b.d.
Petrex, Inc., No. 1 Arvin, Kern Co.	32-31-30	2,152	sd. sh. drlg.
Superior Oil, No. 1 Wagner, Rio Bravo, Kern Co.	35-28-25	4,275	sd. sh. drlg.
Union Oil, No. 2-34 KCL, Rio Bravo, Kern Co.	34-29-25	5,596	sd. sh. drlg.
Continental Oil, No. 1 Rosedale, Kern Co.	12-29-26	10,210	redrlg. 8,998
Superior Oil, No. 1 Krause, Greeley, Kern Co.	21-29-26	7,811	br. sh. drlg.
Superior Oil, No. 9 KCL, Greeley, Kern Co.	3-30-26	7,870	cleaning out
Superior Oil, No. 10 KCL, Greeley, Kern Co.	3-30-26	8,403	dry; abd.
Standard Oil, No. 11-2 KCL, Greeley, Kern Co.	20-29-26	8,339	deepening
Standard Oil, No. 11-8-A KCL, Greeley, Kern Co.	18-29-26	7,792	sd. sh. drlg.
Standard Oil, No. 11-11 KCL, Greeley, Kern Co.	17-29-26	7,797	hd. sh. drlg.
Standard Oil, No. 11-12 KCL, Greeley, Kern Co.	20-29-26	7,593	sd. sh drlg.
Standard Oil, No. 12-3 KCL, Greeley, Kern Co.	16-29-26	5,135	idle
Standard Oil, No. 17-1 KCL, Greeley, Kern Co.	9-29-26	7,995	sd. sh. drlg.
Standard Oil, No. 15-1 KCL, Ten Section, Kern Co.	27-30-26	8,070	cmtd. 6,313
Shell Oil, No. 32-29-D KCL, Ten Section, Kern Co.	29-30-26	5,861	sd. sh. drlg.
Shell Oil, No. 85-25-B KCL, Ten Section, Kern Co.	25-30-26	5,560	sd. sh. drlg.
Shell Oil, No. 27-30-B KCL, Ten Section, Kern Co.	30-30-26	7,796	sd. sh. drlg.
Shell Oil, No. 72-14-A KCL, Canal, Kern Co.	14-30-25	7,885	sd. sh. drlg.
Ohio Oil, No. 4-E KCL, Canal, Kern Co.	13-30-25	4,294	sd. sh. drlg.
Standard Oil, No. 1 Magunden, Kern Co.	2-30-29	5,787	dry; abd.
Merritt-Annex Oil, No. 7 Midway-Sunset, Kern Co.	25-12-24	2,620	sd. sh. drlg.
C. C. M. Oil, No. 76-6 Midway-Sunset, Kern Co.	6-32-23	1,150	O.S. drlg.
Iriquois Oil, No. 2 Midway-Sunset, Kern Co.	7-11-23	998	sd. sh. drlg.
Hallmark Oil, No. 9 Midway-Sunset, Kern Co.	25-12-24	2,701	idle
Chemeketa Oil, No. 1 Midway-Sunset, Kern Co.	15-32-23	1,072	sd. sh. drlg.
Signal Oil, No. 4 Kendon, Midway-Sunset, Kern Co.	35-32-23	2,096	sd. sh. drlg.
Victor Oil, No. 14 Midway-Sunset, Kern Co.	35-32-23	1,806	br. sh. drlg.
Ethel D. Oil, No. 21-A Midway-Sunset, Kern Co.	36-12-24	1,001	sd. sh. drlg.
National Oil, No. 17 Midway-Sunset, Kern Co.	35-32-23	1,136	sd. sh. drlg.
Texas Co., No. 1 Pioneer, Midway-Sunset, Kern Co.	33-11-23	5,897	hd. sh. drlg.
Texas Co., No. 25 Midway-Sunset, Kern Co.	32-32-24	3,170	P.B. 2,950
Texas Co., No. 29 Midway-Sunset, Kern Co.	2-32-24	3,002	pump. 140 b.d.
Texas Co., No. 30 Midway-Sunset, Kern Co.	32-32-24	1,891	sd. sh. drlg.
Richfield Oil, No. 11-D-A Elk Hills, Kern Co.	1-31-24	3,310	sd. sh. drlg.
Ohio Oil, No. 2-D Tejon, Kern Co.	23-11-19	5,100	sd. sh. drlg.
Universal Oil, No. 1 Tejon, Kern Co.	33-11-19	4,468	flow. 125 b.d.
Honolulu Oil, No. 33-1 SP, Tejon, Kern Co.	33-12-19	5,197	sd. sh. drlg.
Shell Oil, No. 4-26 KCL, San Emidio, Kern Co.	26-11-22	3,293	sd. sh. drlg.
Pure Oil, No. 1 Cantua, Fresno Co.	31-18-17	9,550	sd. sh. drlg.
Union Oil, No. 1 Nicholson, Cantua, Fresno Co.	17-15-15	5,171	sd. sh. drlg.
Superior Oil, No. 1 S.P.L., Fresno Co.	20-16-13	1,984	sd. sh. drlg.
Dauphin Dev., No. 1 Alcade, Fresno Co.	30-21-14	3,595	br. sh. drlg.
Jacalitos Oil, No. 1 Jacalitos, Fresno Co.	14-21-15	5,594	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St. sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut-in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting for cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Central Valley Oil, No. 1 Joaquin, Fresno Co.	1-12-20	410	sd. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	11,746	fish. D.P.
K. N. D. A., No. 67-20 J Kettleman North, Fresno Co.	20-21-17	8,560	redrlg. 8,550
K. N. D. A., No. 72-4-P Kettleman North, Fresno Co.	4-22-17	5,261	sd. sh. drlg.
K. N. D. A., No. 83-4-P Kettleman North, Fresno Co.	4-22-17	8,360	sd. sh. drlg.
K. N. D. A., No. 27-12-P Kettleman North, Kings Co.	12-22-17	8,010	O.S. drlg.
K. N. D. A., No. 38-12-P Kettleman North, Kings Co.	12-22-17	7,490	hd. sh. drlg.
K. N. D. A., No. 6-6-Q Kettleman North, Kings Co.	6-22-18	8,690	P.B. 8,189
K. N. D. A., No. 27-6-Q Kettleman North, Kings Co.	6-22-18	8,745	sd. sh. drlg.
Standard Oil, No. 27-21-J Kettleman North, Fresno	21-21-17	8,770	hd. sd. drlg.
Standard Oil, No. 27-33-J Kettleman North, Fresno	33-21-17	8,530	flow. 1,025 b.d.
Standard Oil, No. 2-11-P Kettleman North, Kings Co.	11-22-17	7,960	gr. sd. drlg.
Standard Oil, No. 76-1-P Kettleman North, Kings Co	1-22-17	7,598	hd. sd. drlg.
Standard Oil, No. 21-13-P Kettleman North, Kings Co.	13-22-17	6,560	sd. sh. drlg.
Standard Oil, No. 41-7-Q Kettleman North, Kings Co.	7-22-18	2,560	sd. sh. drlg.
Superior Oil, No. 5 Huffman, Kettleman No., Fresno	29-21-17	10,420	sd. sh. drlg.
Union Oil, No. 1 King, Kettleman North, Fresno Co.	29-21-17	8,310	cleaning out
Bandini Pet., No. 5 Whepley, Kettleman No., Fresno	35-21-17	8,520	sd. sh. drlg.
Temblor Oil, No. 1-B Kettleman Middle, Kings Co.	25-23-18	9,138	hd. sh. drlg.
Amerada Pet., No. 1 Carano, Los Banos, Merced Co.	19-10-11	7,135	hd. sh. drlg.
Little Cuyama Oil, No. 1 Adelaide, San Luis Obispo	3-10-26	3,992	dry; abd.
Standard Oil, No. 2 Weyl, McDonald Is., San Joaquin	25- 2-4	6,961	gr. sd. drlg.
Standard Oil, No. 1 Morris, Delano, Tulare Co.	36-24-23	11,050	hd. sh. drlg.
Wilshire Oil, No. 1 Half Moon Bay, San Mateo Co.	20- 6-5	5,765	sd. sh. drlg.
Ohio Oil, No. 1 Willard, Glenn Co.	18-20-2	3,252	sd. sh. drlg.
Tracy Drlg., No. 2 Hanson, Rio Vista, Solano Co.	36- 4-2	4,380	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil, No. 2 S.F., El Segundo, Los Angeles Co.	7- 3-14	7,539	blew out
Richfield Oil, No. 1-M, El Segundo, Los Angeles Co.	12- 3-15	7,235	flow. 1,030 b.d.
Richfield Oil, No. 2-M, El Segundo, Los Angeles Co.	12- 3-15	7,184	Schist; drlg.
Richfield Oil, No. 1-H, El Segundo, Los Angeles Co.	18- 3-14	7,199	sd. sh. drlg.
Sunshine Oil, No. 1 G.W., El Segundo, Los Angeles	12- 3-15	7,195	sd. sh. drlg.
Sunshine Oil, No. 2 C.W., El Segundo, Los Angeles	12- 3-15	7,126	Schist; drlg.
Sunshine Oil, No. 1-W El Segundo, Los Angeles Co.	12- 3-15	7,225	flow. 450 b.d.
Apex Pet., No. 1-C El Segundo, Los Angeles Co.	12- 3-15	4,590	sd. sh. drlg.
Ohio Oil, No. 10 Gough, El Segundo, Los Angeles Co.	7- 3-14	7,359	sd. sh. drlg.
Texas Co., No. 6 Security, El Segundo, Los Angeles	18- 3-14	5,675	sd. sh. drlg.
Standard Oil, No. 4 Ref., El Segundo, Los Angeles Co.	13- 3-15	7,474	tested wet
Standard Oil, No. 7 Ref., El Segundo, Los Angeles Co.	13- 3-15	6,890	sd. sh. drlg.
Standard Oil, No. 8 Ref., El Segundo, Los Angeles Co.	13- 3-15	250	sd. sh. drlg.
Howard Oil, No. 1 El Segundo, Los Angeles Co.	12- 3-15	7,130	sd. sh. drlg.
Lakeside Oil, No. 10-1 Elsie, El Segundo, Los Angeles	12- 3-15	7,260	sd. sh. drlg.
Wilshire Oil, No. 2-1 Elsie, El Segundo, Los Angeles	12- 3-15	2,990	sd. sh. drlg.
Wilshire Oil, No. 2 Sec., El Segundo, Los Angeles Co.	12- 3-15	3,881	sd. sh. drlg.
Standard Oil, No. 84 LAI, Inglewood, Los Angeles Co.	17- 2-14	3,700	sd. sh. drlg.
C. C. M. Oil, No. 33-T Torrance, Los Angeles Co.	16- 6-14	4,925	flow. 100 b.d.
Kavanaugh, E. C., No. 1 Palos Verdes, Los Angeles	17- 4-14	5,502	P.B. 5,262
Rolling Hills Pet., No. 1 Palos Verdes, Los Angeles	27- 4-14	2,070	sd. sh. drlg.
Tide Water A. O., No. 15 D.F., Dominguez, L. Angeles	33- 3-13	3,997	sd. sh. drlg.
Shell Oil, No. 92 Reyes, Dominguez, Los Angeles Co.	33- 3-13	7,732	cleaning out
Shell Oil, No. 93 Reyes, Dominguez, Los Angeles Co.	33- 3-13	1,691	sd. sh. drlg.
Union Oil, No. 49 Hellman, Dominguez, Los Angeles	33- 3-13	4,170	cmtd. 3,887
Union Oil, No. 56 Callender, Dominguez, Los Angeles	33- 3-13	9,625	P.B. 7,300
Union Oil, No. 57 Callender, Dominguez, Los Angeles	33- 3-13	7,790	P.B. 7,150
Union Oil, No. 10 Carson, Dominguez, Los Angeles	33- 3-13	7,636	flow. 200 b.d.
Selbar Oil, No. 1 Harris, Dominguez, Los Angeles Co.	33- 3-13	4,905	redrlg. 4,388
Barnsdall Oil, No. 19 O'Dea, Rosecrans, Los Angeles	18- 3-13	4,795	sd. sh. drlg.
Union Oil, No. 35 H.P., Rosecrans, Los Angeles Co.	18- 3-13	9,615	sd. sh. drlg.
Texas Co., No. 5-1 Gardena, Los Angeles Co.	30- 3-13	4,784	sd. sh. drlg.
Barnsdall Oil, No. 2-S.F., Newhall, Los Angeles Co.	26- 4-17	6,095	hd. sd. drlg.
Burt, A. G., No. 1 Newhall, Los Angeles Co.	26- 4-17	2,575	hd. sd. drlg.
Towsley Canyon Oil, No. 1 Newhall, Los Angeles Co.	8- 3-16	4,101	sd. sh. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles Co.	8- 4-17	821	cleaning out
West Coast Dev., No. 1 Saugus, Los Angeles Co.	27- 4-16	1,206	sd. sh. drlg.
General Pet., No. 1 Blinn, Wilmington, Los Angeles	3- 4-13	2,469	sd. sh. drlg.
General Pet., No. 1 Harbor, Wilmington, Los Angeles	4- 5-13	1,865	sd. sh. drlg.
General Pet., No. 6 Harbor, Wilmington, Los Angeles	4- 5-13	2,470	O.S. drlg.
General Pet., No. 9-T Wilmington, Los Angeles Co.	4- 5-13	3,015	flow. 170 b.d.
General Pet., No. 11-T Wilmington, Los Angeles Co.	4- 5-13	2,930	P.B. 2,875
General Pet., No. 3-C Wilmington, Los Angeles Co.	4- 5-13	2,180	sd. sh. drlg.
General Pet., No. 2-S.P. Wilmington, Los Angeles Co.	3- 5-13	2,450	sd. sh. drlg.
Allied Pet., No. 23 Wilmington, Los Angeles Co.	32- 4-13	2,625	O.S. drlg.
Bankline Oil, No. 12-D.H., Wilmington, Los Angeles	34- 4-13	3,361	pump. 160 b.d.
Bankline Oil, No. 4-H Wilmington, Los Angeles Co.	34- 4-13	3,356	sd. sh. drlg.
Bankline Oil, No. 1-J.C., Wilmington, Los Angeles Co.	34- 4-13	3,190	sd. sh. drlg.
Bankline Oil, No. 2-J.C., Wilmington, Los Angeles Co.	34- 4-13	3,322	flow. 290 b.d.
Bankline Oil, No. 2-U.P., Wilmington, Los Angeles Co.	3- 5-13	1,997	sd. sh. drlg.
Baker Oil, No. 1 Wilmington, Los Angeles Co.	35- 4-13	3,502	redrlg. 3,078
Black Gold, No. 6 Wilmington, Los Angeles Co.	33- 4-13	3,637	flow. 320 b.d.
Caminol Co., No. 1-6-H, Wilmington, Los Angeles Co.	32- 4-13	418	sd. sh. drlg.
Colter & McAdoo, No. 2 Wilmington, Los Angeles Co.	32- 4-13	3,650	sd. sh. drlg.
Colter & McAdoo, No. 3 Wilmington, Los Angeles Co.	32- 4-13	2,950	sd. sh. drlg.
Krieger Oil, No. 1 K.W. Wilmington, Los Angeles Co.	32- 4-13	3,655	bldg. rig
Lokern Dev., No. 1-B Wilmington, Los Angeles Co.	33- 4-13	2,198	sd. sh. drlg.
Macson Oil, No. 2-C Wilmington, Los Angeles Co.	33- 4-13	3,390	sd. sh. drlg.
Neilson & Co., No. 2-B Wilmington, Los Angeles Co.	32- 4-13	3,692	flow. 180 b.d.
Pongratz, Gus, No. 1 Webb, Wilmington, Los Angeles	32- 4-13	3,686	sd. sh. drlg.
Royalty Serv., No. 1-K.Y., Wilmington, Los Angeles	33- 4-13	1,690	sd. sh. drlg.
Royalty Serv., No. 1-F Wilmington, Los Angeles Co.	33- 4-13	3,634	sd. sh. drlg.
Royalty Serv., No. 1-H Wilmington, Los Angeles Co.	32- 4-13	3,611	pump. 75 b.d.
Royalty Serv., No. 1-K Wilmington, Los Angeles Co.	33- 4-13	3,647	flow. 357 b.d.
Selegna Drlg., No. 10 Wilmington, Los Angeles Co.	33- 4-13	5,933	P.B. 5,714
Selegna Drlg., No. 14 Wilmington, Los Angeles Co.	33- 4-13	3,018	sd. sh. drlg.
Superior Oil, No. 1-C Wilmington, Los Angeles Co.	2- 5-13	2,581	O.S. drlg.
Union Pacific, No. 52 Wilmington, Los Angeles Co.	34- 4-13	3,480	P.B. 3,241
Union Pacific, No. 53 Wilmington, Los Angeles Co.	34- 4-13	3,343	flow. 340 b.d.
Union Pacific, No. 59 Wilmington, Los Angeles Co.	4- 5-13	3,437	flow. 535 b.d.
Union Pacific, No. 61 Wilmington, Los Angeles Co.	4- 5-13	3,475	sd. sh. drlg.
Union Pacific, No. 62 Wilmington, Los Angeles Co.	33- 4-13	3,330	O.S. drlg.
Union Pacific, No. 66 Wilmington, Los Angeles Co.	34- 4-13	3,271	flow. 226 b.d.
Union Pacific, No. 69 Wilmington, Los Angeles Co.	34- 4-13	2,876	flow. 131 b.d.
Union Pacific, No. 74 Wilmington, Los Angeles Co.	34- 4-13	3,225	flow. 670 b.d.
Union Pacific, No. 77 Wilmington, Los Angeles Co.	34- 4-13	3,195	sd. sh. drlg.
Union Pacific, No. 78 Wilmington, Los Angeles Co.	34- 4-13	2,731	sd. sh. drlg.
Wilbur, V. R., No. 2-S.R., Wilmington, Los Angeles	33- 4-13	3,698	pump. 120 b.d.
Wilmington Oil, No. 2-Wilmington, Los Angeles Co.	32- 4-13	5,575	sd. sh. drlg.
Alford Oil, No. 3-C.Y. Wilmington, Los Angeles Co.	22- 4-13	6,050	sd. sh. drlg.
Ramsey, W. E., No. 1 Repetto Hills, Los Angeles Co.	27- 1-12	2,670	sd. sh. drlg.
Texas Co., No. 18 Baldwin, Montebello, Los Angeles	5- 2-11	5,850	hd. sd. drlg.
St. Helens Pet., No. 20-M Montebello, Los Angeles Co.	6- 2-11	6,353	cleaning out
Union Oil, No. 2 Flood Control, Los Angeles Co.	13- 4-13	4,105	flow. 1,109 b.d.
Hilldon Oil, No. 3-B Flood Control, Los Angeles Co.	13- 4-13	2,984	sd. sh. drlg.
Abrams, John, No. 1 Flood Control, Los Angeles Co.	13- 4-13	4,247	C.P. 4,223
Texas Co., No. 5 Bauman, Long Beach, Los Angeles	19- 4-12	2,094	sd. sh. drlg.
Texas Co., No. 4 Gray, Long Beach, Los Angeles Co.	19- 4-12	3,198	sd. sh. drlg.
Powers, E. D., No. 3 Long Beach, Los Angeles Co.	19- 4-12	997	sd. sh. drlg.
Shell Oil, No. 1 Hath., Long Beach, Los Angeles Co.	28- 4-12	5,090	sd. sh. drlg.
Rico Pet., Inc., No. 1 Long Beach, Los Angeles Co.	30- 4-12	4,012	cleaning out
Richfield Oil, No. 11 Denni, Long Beach, Los Angeles	29- 4-12	2,960	pump. 35 b.d.
Richfield Oil, No. 19 Haas, Long Beach, Los Angeles	19- 4-12	2,926	sd. sh. drlg.
Richfield Oil, No. 6-M.D., Long Beach, Los Angeles	29- 4-12	2,774	cmtd. 2,703
Union Oil, No. 100 Santa Fe Springs, Los Angeles Co.	6- 3-11	11,314	cleaning out
Texas Co., No. 7-W Santa Fe Springs, Los Angeles Co.	6- 3-11	6,803	completing
Continental Oil, No. 40 Bixby, Seal Beach, Orange Co.	2- 5-12	7,501	P.B. 6,556
Lido Pet., No. 2 Severns, Huntington, Orange Co.	34- 5-11	4,595	sd. sh. drlg.
Standard Oil, No. 34-A Huntington, Orange Co.	34- 5-11	3,654	sd. sh. drlg.
Shell Oil, No. 4-1 Columbia, Olinda, Orange Co.	9- 3-9	8,021	P.B. 5,000
Brea Canyon Oil, No. 36 Brea Canyon, Orange Co.	2- 3-10	4,552	redrlg. 2,750
Standard Oil, No. 127 Murphy, West Coyote, Orange	18- 3-10	3,240	cmtd. 3,224
Severns Drlg., No. 2 McNally, West Coyote, Orange	18- 3-10	7,272	redrlg. 3,080
Union Oil, No. 29 Chapman, Richfield, Orange Co.	29- 3-9	9,750	sd. sh. drlg.
Oil Income, No. 1 Anderson, Yorba, Orange Co.	22- 3-9	2,182	P.B. 1,765
Hjorth & Mohr, No. 1 Yorba, Orange Co.	22- 3-9	1,403	cleaning out
Berco Oil, No. 1 Milhous, Yorba, Orange Co.	22- 3-9	1,685	reaming
Angelus Oil, No. 1 Jacobs, Yorba, Orange Co.	22- 3-9	1,691	P.B. 1,605
Fairfield, F. E., No. 1 Dutton, Yorba, Orange Co.	22- 3-9	1,510	sd. sh. drlg.
Oliver & Owen, No. 1 Moritz, Yorba, Orange Co.	22- 3-9	1,650	O.S. drlg.
Shell Oil, Core Hole H., Yorba, Orange Co.	16- 3-9	2,250	core hole
Bachman Pet., No. 1 Page, Yorba, Orange Co.	22- 3-9	1,620	pump. 25 b.d.
Shell Oil, No. 1-H Anaheim, Orange Co.	9- 4-10	8,608	dry; abd.
Selegna Oil, No. 1-A Chino, San Bernardino Co.	12- 3-8	1,285	sd. sh. drlg.

KANSAS

Week Ending January 1 (Descriptions are East unless marked otherwise)

Barber County

Heimerich & Payne No. 1 Winter, NW SW sec. 16-32-10w. Drlg. 4,025 ft.
Kansas Oil Corp. No. 1 Mease, NE SE SE sec. 27-30-11w. Drlg. 4,720 ft.
Palmer Oil Corp. et al No. 1 Warwick, C NW sec. 29-31-10w. Rig.
Pryor & Lockhart No. 1 Pickens, CWL E½ SW sec. 34-30-13w. Arbkl. 4,665-4,715 ft.

Barton County

Elmer Ash et al No. 1 Frees, NW cor. sec. 34-16-11w. Drlg. 2,585 ft.
R. E. Day et al No. 1 Felts, SE SE NE sec. 14-16-12w. S.D. 1,775 ft.
Lauck & Moncrief and Vernon O. & G. Co. No. 1 Rodenburg, NE SE SW sec. 6-17-12w. T.D. 3,510 ft.; D.&A.
Martin & Foraker et al No. 1 Dick Est., NE SW SW sec. 31-19-11w. Rig.
C. L. Price No. 1 Hammeke, NE NE SW sec. 12-18-12w. Sil. 3,415-27 ft.; 1,800 ft. O.I.H.; bails 4 bbls. wtr. every other day.
Shell Pet. Corp. No. 1 Eckart, SE SE SW sec. 13-16-14w. Drlg. 3,414 ft.
Sinclair Prairie Oil Co. No. 1 Oser, NE SE sec. 17-16-11w. Drlg. 800 ft.
Thayer Drlg. Co. et al No. 1 Soderstrom, SE NW sec. 21-17-13w. Drlg. 2,405 ft.

Butler County

T. S. Dustin No. 1 Miley, SE NW NE sec. 17-27-5e. S.D. 395 ft.
Steinbuchel et al No. 1 Fox, NW SE NE sec. 25-26-3e. Drlg. 1,010 ft.

Chautauqua County

Harrison No. 1 Brown, NE SE NE sec. 19-34-10: S.D. 820 ft.
I. W. Siegel No. 1 Temple, SW cor. sec. 31-32-12. Drlg. 400 ft.

Clark County

Olson Oil Co. No. 1 Lenman, SE SW sec. 20-32-31w. Drlg. 4,700 ft.
Olson Oil Co. et al No. 1 Watkins, SW NW sec. 23-32-21w. Drlg. 6,423 ft.

Cowley County

Dickey Oil Co. No. 1 Kansas G. & E., NE cor. sec. 22-34-3e. Chat 3,302-03 ft.; rng. 5-in.
Murta & Wilson et al No. 1 Stuber, SE NE NE sec. 27-30-5e. Miss. 2,905-07 ft., T.D.; D.&A.
Pryor & Lockhart No. 1 Brown, NE SE SE sec. 34-33-2e. T.D. 3,403 ft.; D.&A.
Roth et al No. 1 Fry, NW SW SW sec. 8-31-3e. U.R. 8-in. 1,830 ft.
Smith & Price No. 1 Henderson, SW SW sec. 25-32-6. S.D. 2,800 ft.
Trees Oil Co. and Talbott No. 1 McMinn, NE NW sec. 16-31-6. Drlg. 150 ft.
Earl Wakefield No. 1 Whitson, SW NE SE sec. 8-32-4e. T.D. 3,294 ft.; P.B. 3,292 ft.; set 6-in. 3,285 ft.

Ellis County

C. L. Carlock No. 1 Heyle, SE NW sec. 14-13-16w. Drlg. 2,850 ft.
Colonial Oil Co. and Bernheimer No. 1 Albert, SW SW NE sec. 31-12-18w. T.D. 3,958 ft.; D.&A.
General Mach. & Tool Co. No. 1 Jensen, SW SE NE sec. 26-12-18w. Drlg. 3,-570 ft.
Glimac Oil Co. et al No. 1 K. C. Life, SE SW NW sec. 5-11-18w. Drlg. 2,-610 ft.
Hays & Sackrider No. 1 Windholtz, NE cor. sec. 2-13-16w. S.D. 40 ft.
J. J. Muth et al No. 1 Penney, C N½ NE SE sec. 29-14-18w. C.O. 350 ft.
P. G. Reynolds et al No. 1 Karlin, NW cor sec. 13-12-18w. Sil. 3,674-75 ft.; pulling 6-in. csg.
Watchorn O. & G. Co. No. 1 Brown, NE SE sec. 34-13-17w. T.D. 3,529 ft.; acd.; swb. 4 B.O.P.H.

Ellsworth County

Colonial Oil Co. No. 1 Hogy, NW cor. sec. 16-16-10w. Set 10-in. 1,860 ft.; C.O.
Hinkle et al No. 1-A Andrea, NE SE sec. 7-17-10w. Drlg. 3,220 ft.
Ralph Wixson et al No. 1 Peterman, SW cor. sec. 28-17-10w. S.D. 1,920 ft.

Greenwood County

John Nichols et al No. 1 Central Life, SE SW sec. 35-25-12. Spd. and S.D.

Harvey County

Allison et al No. 1 Hawks, SE SW NE sec. 16-24-1w. Fsg. 3,430 ft.
National Ref. Co. No. 1 Brown Bros., NW SE NE sec. 22-23-2w. Drlg. 1,-570 ft.

Jackson County

Lemmick Oil Co. No. 1 Marble Savings Bank, NE cor. sec. 26-9-14. Spd. and S.D.

Jewell County

Hollingsworth Bros. No. 1 Wolfe, NE SW SE sec. 14-4s-8w. Spd. and S.D.

Lane County

Phillips Pet. Co. No. 1 Kees, C SE SE sec. 3-19-30w. Drlg. 2,545 ft.

Marion County

Tom Palmer, Inc. No. 1 Matz, SW SE SE sec. 8-19-1e. Set 6-in. 3,354 ft.; C.O.

McPherson County

Archer & Crane No. 1 Templin, NW SW SE sec. 32-17-3w. C.O. 1,808 ft.
Boyle & Grossman No. 1 Diener, SE SE NE sec. 35-19-1w. Drlg. 3,099 ft.
Carter Oil Co. No. 1 Hogiund, C W½ SW NW sec. 8-17-3w. Drlg. 3,507 ft.
Dole-Park Dev. Co. No. 1 Doles, NE NW NE sec. 12-19-1w. T.D. 3,471 ft.; D.&A.

Meade County

Pacific Mid-West Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. Drlg. 950 ft.

Ness County

Continental Oil Co. No. 1 Olson, SW NW SE sec. 5-18-25w. T.D. 4,325 ft.; swb. 100 B.O. and 2½ B.W.; after 6 hrs. 3½ B.W.
Marshall Drlg. Co. et al No. 1 Anderson, SW NW sec. 23-16-24w. Spd. and S.D.
Trojan O. & G. Co. No. 1 Moses, C SW NW sec. 10-18-25w. S.D. 500 ft.
Trojan O. & G. Co. No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Fsg. 3,265 ft.

Pawnee County

Phillips Pet. Co. No. 1 Johnson, C NE NW sec. 8-20-19w. Arbkl. 4,348-4,417 ft.; D.&A.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Jantz, SW cor. sec. 25-20-16w. Sil. 3,804 ft.; T.D. 3,822 ft.; P.B. 3,812 ft.; D.&A.

Phillips County

C. W. Davidson et al No. 1 Elliff, SE NE NE sec. 35-5-18w. S.D. 575 ft.

Pratt County

Heimerich & Payne et al No. 1 Hoeme, SE NE sec. 20-26-12w. Drlg. 4,249 ft.
Ohio Oil Co. No. 1 Howell, C SW SW sec. 21-29-15w. Drlg. 2,445 ft.
Skelly Oil Co. et al No. 1 Adams, SE NW NE sec. 2-28-11w. T.D. 4,300 ft.; P.B. 4,200 ft.; acd.; 23,712,000 ft. of gas.

Reno County

Carey et al No. 1 McPheeters, NE NW sec. 22-26-8w. Drlg. 2,295 ft.
McCole et al No. 1 Mathews, SW NW NW sec. 15-24-10w. Spd. 80 ft.
Westgate-Greenland et al No. 1 Popp, SW SW NE sec. 7-25-4w. Drlg. 4,007 ft.

Rice County

Joe Aylward No. 1 Weihe, SW NE sec. 23-18-9w. Set 10-in. 1,900 ft.; C.O.
Price et al No. 1 Gemeinhardt, NE SE sec. 18-18-10w. Drlg. 550 ft.
Skiles et al No. 1 Campbell, SE NE sec. 28-19-9w. Arbkl. 3,199-3,202 ft.; S.O.; C.O.
Western Kansas Oil No. 1 Bailey, SW NW sec. 19-20-6w. Set 12-in. 129 ft.; S.D.
W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Pay sd. 3,338 ft.; T.D. 3,-345 ft.; swbg.

Rooks County

C. R. Craft et al No. 1 Ziegler, NE SW sec. 8-10-16w. T.D. 3,581 ft.; D.&A.
Graham et al No. 1 Fike, SW cor. sec. 9-9-

17w. T.D. 3,326 ft. pmpd. 50 B.O. and 35 B.W. in 8 hrs.; fsg.
Producers Oil Co. No. 1 Ham, SW SW NW sec. 25-7-19w. S.D. 300 ft.
Producers Oil Co. No. 1 Tucker, SW SE NW sec. 23-10-17w. Arbkl. 3,740-59 ft.; D.&A.
Ross Oil Co. et al No. 1 Hancock, NE NW sec. 5-10-17w. T.D. 5,697 ft.; D.&A.
Texo Trading Co. No. 1 Probst, SW SW NE sec. 18-6-19w. Granite 3,625-39 ft.; D.&A.

Rush County

Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Sil. 3,492-95 ft.; 1,500 ft. sulfur water in hole in 2½ hrs.; T.D 3,512 ft.; S.D.O.
Wakefield & Brouk No. 1 Kerbs, NW NW SE sec. 11-17-16w. Drlg. 3,520 ft.

Russell County

Emrichs et al No. 1 Anderson, NE SE SW sec. 33-15-11w. Spd. and S.D.
Jones & Shelburne No. 1 Short, NE cor. sec. 21-15-12w. Drlg. 2,810 ft.
Murfin and Vernon O. & G. Co. No. 1 Pearson, NE cor. sec. 31-15-15w. H.F. W. 3,475-80 ft.; abd.
Phil-Han & Hinkle No. 1 Reinhardt, SE SW sec. 19-14-14w. Pay 3,242-43 ft.; 2,700 ft. O.I.H.; U.R.
Shields et al No. 1 Rogg, NW SW sec. 28-14-13w. Drlg. 1,665 ft.
Winkler & Koch No. 1 Jones, SE SE NW sec. 22-14-13w. Sil. 3,180 ft.; S.D.O.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE sec. 35-28-1e. Fsg. 1,550 ft.
McKnab No. 1 Garrett, SE SW SW sec. 18-29-2e. S.D. 100 ft.
L. W. Murfin et al No. 1 Martin, SE NW sec. 32-28-1e. T.D. 3,491 ft.; acd.; swb. 45 B.O. in 24 hrs.
Reeves & Kinnan No. 1 Heim, SW cor. sec. 5-29-3w. Drlg. 2,285 ft.
Steinbuchel et al No. 1 McAdams, SW NE sec. 28-29-1e. Drlg. 250 ft.
M. Steinbuchel et al No. 1 Shaffer, SW SW NW sec. 18-25-1e. T.D. 3,685 ft.; D.&A.
Union O. & R. Co. et al No. 1 Howell, SW cor. sec. 6-29-1e. T.D. 2,400 ft.; S.D.

Stafford County

Cardinal Oil Co. et al No. 1 Sittner, SW cor. sec. 4-22-12w. Drlg. 1,831 ft.
Hippie et al No. 1 Moses, NW SW sec. 9-22-13w. Drlg. 3,634 ft.
Fred Rust et al No. 1 Sims, NW SW sec. 8-23-11w. Cd. 3,719-29 ft.; saturation; R.U.S.T.
Stanolind O. & G. Co. No. 1 Wadsack, SW SW NE sec. 4-25-11w. T.D. 4,089 ft.; D.&A.
Torry & Feaster et al No. 1 Heggy, NE SW sec. 26-23-11w. Drlg. 250 ft.
Torry & Feaster et al No. 1 Landerman, SW SW NE sec. 32-22-12w. T.D. 3,680 ft.; D.&A.

Sumner County

Cities Service Oil Co. No. 1 McCoy, SE SW sec. 11-35-2e. Drlg. 3,690 ft.
W. M. McKnab No. 1 Blair, SW cor. sec. 7-30-1e. T.D. 3,869 ft.; swbs. 75 to 100 B.O.P.D.
Saco Oil Co. No. 1 Phipps, SW SE NE sec. 24-30-1w. Spd. and S.D.
R. J. Wixson No. 1 Newton, SE SE sec. 21-30-2e. T.D. 3,600 ft.; D.&A.

Trego County

Carlock No. 1 Kinzel, SW SW sec. 9-13-22w. Spd. and S.D.

NEBRASKA WILDCATS

L. R. Page et al No. 1 Bonham, C SE SE sec. 31-1n-1e, Jefferson County. Arbkl. 3,240 ft.; T.D. 3,304 ft.; S.D.
Arab Pet. Corp. et al No. 1 Ogle, SE SE sec. 9-1n-14e. Viola 3,019 ft.; Granite sec. 9-1n-14e, Richardson County. Viola 3,019 ft.; Granite 3,423 ft., T.D.; P.B. to Viola.

OKLAHOMA

Week Ending January 1

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Drlg. 2,341 ft.

Caddo County

Indian Terr. Illum. Oil Co. No. 1 Dome-Bo, C NE SE sec. 29-6-10w. Drlg. 6,880 ft.

Cleveland County

W. A. Delaney et al No. 1 Bugher, SE SE SW sec. 12-7-2w. Rig.
Harper-Turner No. 1 Pollock, C W½ NW NW sec. 13-9-2w. T.D. 6,850 ft.; drld. by pipe to 6,807 ft.; cmtd.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 3,018 ft.; 2,000 ft. W.I.H. and S.S.O.; S.D.

Garfield County

H. R. Hollenback et al No. 1 Clark, NW cor. sec. 34-21-6w. Drlg. 6,634 ft.

Garvin County

B. C. D. Edwards No. 1 Clark, NE cor. sec. 16-3n-3e. T.D. 2,676 ft.; P.B. 2,088 ft.; perf.; tstg.

Grady County

Doyle Pet. Co. No. 1 Huffine, NW NW SE sec. 30-5-8w. Drlg.
Gulf Oil Corp. No. 1 Thomas, SW NW NW sec. 14-4-5w. Drlg. 9,505 ft.

Grant County

Magnolia Pet. Co. No. 1 Reynolds, NE NE SE sec. 19-25-5w. T.D. 5,480 ft.; fsg.

Greer County

J. I. Medlin et al No. 1 Broudie, NW cor. sec. 5-6n-20w. T.D. 90 ft.; (cor.); S.D.

Hughes County

Kenneth Ellison et al No. 1 Metropolitan, C NE NE sec. 14-7-9. Drlg. 3,545 ft.
Phillips Pet. Co. No. 1 Becker, NE NW SW sec. 8-5-10. Viola 5,618 ft.; S.S.O. 5,656-72 ft.; cg. 5,714 ft.
Pure Oil Co. No. 1 Rogers, SE SE NE sec. 18-8-12. T.D. 5,054 ft.; P.B. 3,394 ft.; R.U. cable tools.

Kay County

F. S. Freeland et al No. 1-A Watson, NE NW NW sec. 28-28-1w. Rig on ground.
Helmerich & Payne No. 1 Scott, SE SE NE sec. 20-28-1w. Drlg. 2,545 ft.
E. W. Jones et al No. 1 Dorse, SE SW NW sec. 25-26-1w. T.D. 4,267 ft.; D.&A.
E. J. Shaffer et al No. 1 McKee, NE NW sec. 20-28-1w. T.D. 2,500 ft.; S.D.

Kiowa County

Gauntt & Baker No. 1 Parks, NW NW SW sec. 29-7-20w. Drlg. 90 ft.
Hughes & Reese No. 1 Fultz, SE cor. sec. 10-6-18w. T.D. 1,238 ft.; rep. mach.

Lincoln County

C. L. Carlock No. 1 Young, C N half NW NW sec. 23-15-5. Second Wilcox 4,509-12 ft.; P.B. 3,750 ft.; perf.; bailed S.W.; D.&A.

Major County

Ed V. Parsons et al No. 1 Patzkowsky, C NW sec. 10-20-11w. Rig.
W. T. Sheldon No. 1 Chapman, C NW NW sec. 26-4s-6e. T.D. 2,510 ft.; S.D.

Marshall County

Paul Robb et al No. 1 Vittitoe, C NE SE sec. 11-5s-4e. O.W.D.D.; C.O. to 720 ft.; S.D.

Murray County

Meyer & Greenup No. 1 Arbuckle, NW NW NE sec. 18-2s-3e. Spd. and S.D.
O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. T.D. 2,741 ft.; acid.
Sinclair Prairie Oil Co. No. 1 Lancaster Trust, C SW NE sec. 10-1-2e. T.D. 4,404 ft.; freeing stuck pipe.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. T.D. 6,010 ft.; Temp. abd., but not plugged.

Stephens County

Coline Oil Co. No. 1 Johnson, C SW SE SE NE sec. 1-2n-8w. T.D. 10,000 ft.; P.B. 9,164 ft.; drlg. outside of csg. 8,687 ft.
Helmerich & Payne No. 1 Pfile, SW cor. sec. 1-2s-7w. Drlg. 3,849 ft.
Ed Parsons and Olson Drlg. Co. No. 1 Blake, C SW NW sec. 22-2n-8w. T.D. 6,002 ft.; P.B. 5,020 ft.; pmpd. 40 B.O.; comp.

Tillman County

Cavens et al No. 1 Southerland, SW SW NW sec. 35-4s-16w. T.D. 44 ft.; S.D.
Tom Walker No. 1 Bowman, SW SW NW sec. 10-4s-17w. S.D. 200 ft.

ARKANSAS

Clark County

Coker Oil Corp. No. 1 Coke, NW sec. 14-10-20. T.D. 2,770 ft.; hd. rk.

Columbia County

Kerr-Lynn Oil Co. No. 1 Barnett, sec. 14-17-20. T.D. 6,323 ft.; S.D.; W.O.O.
E. O. Olds No. 1 Dennis, NE SE SW sec. 4-17-21. S.D.; contr. depth 4,513 ft.;

Crittendon County

Manning & Martin No. 1 Cartwright, SW cor. sec. 16-7n-8e. Drlg. 2,736 ft.

Dallas County

L. S. Gist No. 1 J. H. Goodgame, NW sec. 26-10-16. S.D. 2,047 ft.

Miller County—Rodessa

American Liberty Oil Co. No. 1 Treadway, NE sec. 10-20-28. Cg. 6,114 ft.
W. C. Feazel No. 1 Farmer, SE sec. 13-20-28. Set 7-in. csg. 6,035 ft.; T.D. 6,098 ft.; flwd. gas; S.I.; no ga.
Rodger Lacy No. 2 Grogan, NE E½ W½ sec. 15-20-28. Set 7-in. csg. 6,015 ft.; T.D. 6,042 ft.; no ga.
Rodger Lacy No. 1 Sartor, SE W½ sec. 15-20-28. Set 7-in. csg. 6,011 ft.; T.D. 6,040 ft.; comp.; 1,440 B.P.D.; 1-in. ck.; T.D. 6,040 ft.
R. H. Long No. 2 Greer, NW NE sec. 10-20-28. T.D. 6,146 ft.; set csg.
McClanahan et al No. 1-C Capps, E½ W½ Fract. sec. 14-20-28. Cg. 6,120 ft.
McClanahan et al No. 2-B Capps, SW sec. 11-20-28. Set 7-in. csg. at T.D. 6,081 ft.; comp.; 47 B.P.D.
R. W. Newell No. 1 Thomas, NW SE sec. 12-20-28. Drlg. 2,711 ft.
Nivla Oil Corp. No. 1 Cross, SE cor. SE NE sec. 11-20-28. T.D. 6,106 ft.; set 7-in. csg. 6,104 ft.; perf. 6,040-95 ft.; acid.; tstg. 6,106 ft.
J. R. Ostrom No. 1 J. O. Gerrald, NW E½ sec. 15-20-28. T.D. 6,079 ft.; tstg.
Roberts Bros. Drlg. Co. No. 1-B Capps, C sec. 10-20-28. Drlg. 4,617 ft.
Skelly Oil Co. No. 2 Thomas, NE cor. E½ SW sec. 12-20-28. Drlg. 2,610 ft.
S. O. Thomason No. 1 Greer, SW SW NW sec. 11-20-28. O.T.D. 5,809 ft.; sdtrkd. 3,500 ft.; T.D. 6,168 ft.; tstg.
Thompson & Joffra No. 1 Treadway, SE NE sec. 10-20-28. Drlg. 5,029 ft.

Nevada County

Benedum & Trees Oil Co. No. 2 Mary Jackson, NE cor. sec. 9-14s-20w. 7-in. csg. 2,103-09 ft.; sd.; comp.; 150 B.P.D. on pmp.; T.D. 2,109 ft.
Bruce E. Wallace No. 2 Haynie, SE cor. sec 5-14-21. S.D. wtr. 28 ft.
Union Products & Pet. Co. No. 4 Haynie, NW sec. 6-14-20. 6-in. csg. 1,192 ft.; sd.; S.O. 1,170-78 ft.; W.O. perf.

Ouachita County

A. H. Tarver et al No. 1 Dean Est., SW SE sec. 16-14-19. R.U.
O. F. Whittacker No. 2 Guttry, NW sec. 21-15-19w. Cg. 2,146 ft.

Pulaski County

A. L. Kitselman, No. 2 A. L. Kitselman, Jr., SE SE SW sec. 2-1s-13e. Drlg. 1,820 ft.

Union County—Schuler

E. M. Jones No. 3 Marine Oil Co., NE NW SE sec. 17-18-17. Drk.
E. M. Jones No. 4 Marine Oil Co., SE SW SE sec. 17-18-17. Drlg. 7,600 ft.
Lion Oil Ref. Co. No. 1-A M. D. Justiss; NE NW NE sec. 19-18-17. Set csg.; prep. perf.
Lion Oil Ref. Co. No. 1 Marine Oil Co., NE SE SW sec. 17-18-17. Set 7-in. csg. 7,645 ft.; T.D. 7,645 ft.
Lion Oil Ref. Co. No. 2 Marine Oil Co., SW cor. E½ SE¼ sec. 17-18-17. Loc.
Lion Oil Ref. Co. No. 3-B Edna Morgan, NE NW SE sec. 18-18-17. Comp.; est. 2,400 B.P.D.; ¾-in. ck.; perf. 7,640-74 ft.
Lion Oil Ref. Co. No. 4-B Edna Morgan, NW SW SE sec. 18-18-17. S.D.; high wtr.; 6,582 ft.
Lion Oil Ref. Co. et al No. 1-C D. and J. C. Morgan, NE SE SE sec. 18-18-17. Cg. 7,562 ft.
Marine Oil Co. No. 3 fee, SW sec. 17-18-17. Drlg. 5,122 ft.
Marine Oil Co. No. 2 M. D. Justiss, sec. 18-18-17. Comp.; 69 B.P.H.; ¼-in. ck.; perf. 7,520-70 ft.
Phillips Pet. Co. No. 1 First Natl. Bk., NE SW sec. 17-18-17. W.O.C. 180 ft.
Phillips Pet. Co. No. 1 Jennings, NW SW NE sec. 18-18-17. Cg. 7,602 ft.
Phillips Pet. Co. No. 2 Justiss, NW sec. 18-18-17. Drlg. 5,412 ft.
Phillips Pet. Co. No. 2 Marks, SW sec. 18-18-17. Drlg. 4,490 ft.
Alice Sydney Oil Co. No. 3 Morgan, NW NE SE sec. 18-18-17. Drlg. 5,515 ft.

Union County—Other

Penn-Ark. Pet. Corp. No. 1 Raulston, sec. 12-17-14. Fsg. 3,175 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

F. W. Burford No. 1 Cleveland, NW S½ sec. 2-23-16. Drlg. 5,245 ft.
F. W. Burford No. 2 Terry, NE sec. 2-23-16. Sd. 5,995-6,000 ft.; comp.; no ga.; T.D. 6,026 ft.
F. W. Burford No. 3 Terry, sec. 2-23-16. R.U.
Clark Oil Corp. No. 1-C Sharp, sec. 4-23-16. Drlg. 2,610 ft.
Driscoll Jt. No. 1 Muslow, SE NW NE sec. 4-20-15. 6⅝-in. csg.; T.D. 2,175 ft.
Gulf Ref. Co. No. 1 Allison, NW sec. 3-23-16. 7-in. csg. 5,928 ft.; T.D. 6,024 ft. comp.; 120 B.P.D. on 21/64-in. ck.
Gulf Ref. Co. No. 6 Curtis, SE sec. 19-20-15. Set 6-in. csg. 2,167 ft.; T.D. 2,170 ft.
Shell Pet. Corp. No. 1-A Govt., NE SW SE sec. 9-23-16. Perf. 7-in. csg. 5,873-83 ft. and 5,888-90 ft.; comp.; 117 B. P.D.; T.D. 5,953 ft.
Standard Oil Co. of La. No. 1 Spearman, NE SE sec. 3-23-16. R.U.
Standard Oil Co. of La. No. 1 Terry, SE SW sec. 2-23-16. Cg. 5,937 ft.
Standard Oil Co. of La. No. 2 Terry, sec. 2-23-16. Drlg. 3,317 ft.
Alice Sydney Oil Co. No. 1 Alexander, NW cor. sec. 3-23-16. Drlg. 5,132 ft.
R. G. Trippett No. 1 Parker, NE cor. SE sec. 2-23-16. Set csg.; W.O.C.
Union Prod. Co. No. 5 Harris, sec. 10-23-16. Drlg. 5,207 ft.
Union Prod. Co. No. 6 Harris, sec. 10-23-16. Drlg. 725 ft.
Union Prod. Co. No. 7 Starke, SW sec. 8-23-16. T.D. 5,960 ft.; drlg. plug.
G. H. Vaughn No. 1 Reeves, NE cor. sec. 3-23-16. Drlg. 4,617 ft.
G. H. Vaughn No. 1 Sartor, NE sec. 3-23-16. Comp.; no ga.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Ashley, sec. 15-16-10. R.U.
Gulf Ref. Co. No. 1 Goodpine, sec. 25-14-8. S.D. 6,659 ft.; high wtr.

Bossier Parish

Triangle Drlg. Co. No. 1-A Herold, NE NW sec. 13-17-12. Drlg. 1,395 ft.
Union Prod. Co. No. 1-B Kerr Unit, SE sec. 24-17-12. Drlg. 4,265 ft.

Caddo Parish

W. D. Chew No. 4 Spell, SE sec. 29-21-15. Drlg. 838 ft.
W. P. Clark No. 1 Dyer, C sec. 10-20-16. Tstd. dry; W.O.; T.D. 2,279 ft.; P.B. 2,240 ft.
Mrs. O. P. Clement No. 1-B Caddo Lvy. Bd., NE sec. 5-20-16. 6-in. at 2,180 ft.; tstg. 2,312 ft.
D. C. R. Oil Co. No. 2 Sibley, SE cor. SE NW sec. 15-19-14. Set. 7-in. 2,447 ft.; tstg. 2,494 ft.
Double "I" Oil Co. No. 1 Goodwin, NW cor. sec. 33-21-15. Drlg. 105 ft.
W. D. Flynn No. 3 Natalie, SW cor. sec. 10-21-16. S.D. 50 ft.
R. E. Kennedy No. 1 Wells, SE SW sec. 10-21-15. Set 6-in. csg. 1,565 ft.; acidized; testing; T.D. 1,730 ft.
Louisiana Oil Prod. Co. No. 14-B Muslow, sec. 4-20-15. Drlg. 57 ft.
La. Oil Prod. Co. No. 3-C Muslow, sec. 9-20-15. Set 7-in. csg. 2,136 ft.; T.D. 2,172 ft.; W.O.S.R.
Magnolia Pet. Co. No. 22 Dillon Hrs., NE NE sec. 23-21-15. Drlg. 207 ft.
J. F. Mitchell No. 1 Muslow, NE cor. sec. 31-21-15. Loc.
O. O. Olsen No. 1 R. T. Sharp, W½ NW sec. 15-18-16. Tstd. S.G.; prep. acid.;

T.D. 5,624 ft.; comp.; 14,400,000 ft. of gas.
A. D. Robinson No. 1 Wilkinson, sec. 22-20-14. D.S. testing 2,453 ft.
J. E. Sedberry No. 1 Dickinson, NW sec. 15-19-14. Drlg. 1,655 ft.
J. J. Shulman No. 1 Hobbs, NW sec. 28-21-15. Acid.; tstg.; T.D. 1,630 ft.
R. G. Trippett and D. C. R. O. Co. No. 5 School Bd., sec. 16-19-14. Set 7-in. csg. 2,432 ft.; T.D. 2,460 ft.; W.O.S.R.
R. G. Trippett & D. C. R. Oil Co. No. 6 Sch. Bd., SE cor. NE sec. 16-19-14. Drlg. 1,650 ft.

Catahoula Parish

G. C. Foster et al No. 1 Peck, S½ sec. 38-10-8e. R.U.

Claiborne Parish

Atlantic Ref. Co. No. 1-B Bean, N½ NW NE sec. 32-21-4. Comp.; 240 B.P.D.; open tbg.; T.D. 5,210 ft.; to acidize.
Atlantic Ref. Co. No. 1-D Patton, C N½ SE SE sec. 29-21-4. Drlg. 4,197 ft.
E. W. Gill No. 2 English, NW SE sec. 29-21-4. Drlg. 4,693 ft.
T. L. James & Co. No. 1 Tanner, NE NE sec. 32-21-4. Drlg. plugs.
T. L. James & Co. No. 2 Tanner, C E½ NE NE sec. 32-21-4. Swbg.
W. L. McClanahan No. 1 J. T. Lewis, W½ SW SE sec. 25-20-7. S.D. 5,510 ft.
A. O. Olson No. 6-A Patton Est., sec. 3-21-4. Drlg. 5,026 ft.
C. R. Schuster No. 1 S. Lloyd, SW SW sec. 2-20-5. T.D. 5,060 ft.; D.S. stuck.
Sloan & Zook No. 5 Patton, SW sec. 1-20-5. Comp.; 48 B.P.H.; T.D. 5,371 ft.
Trippett et al No. 1-B Aycock, C N½ SE SE sec. 1-20-5. Comp.; 1,320 B.P.D.; ½-in. ck.
Union Prod. Co. No. 2 Brownfield, sec. 5-19-5. O.W.D.D.; cg. 8,561 ft.
Union Prod. Co. No. 1-A Kilpatrick, sec. 11-19-6. R.U.
Union Prod. Co. No. 1 Stevenson Kilpatrick. O.W.D.D.; T.D. 5,741 ft.; comp.; est. 2,000,000 ft. of gas.
Vaughn No. 2 King, N½ SE SE sec. 30-21-4. Swbg.

Concordia Parish

Coastal Mineral & Dev. Co. No. 1 Winsten, NW cor. sec. 23-7-9e. Tstd. S.W. 2,090 ft.; P.B. 2,027 ft.; tested dry; S.D.; W.O.O.

De Soto Parish

Jal Drlg. Co. No. 10-A Scales, sec. 36-13-12. Set 5½-in. csg. 2,418 ft.
Petroleum Heat & Power Co. No. 1 Kavanaugh, NW SW sec. 7-11-11. T.D. 2,734 ft.; S.O.&G.; recmt. csg.

La Salle Parish

Stovall, Tr., No. 4 Russell, SE SE sec. 25-10-1e. 6-in. csg. at T.D. 1,518 ft.
T. & J., Inc. No. 2 Tullos, SE NE sec. 26-10-1e. Tstg. 1,523 ft.
T. & J., Inc., No. 3 Tullos, NE sec. 26-10-1e. Comp.; 35 B.P.D.; T.D. 1,525 ft.
T. & J., Inc. No. 4 Tullos, SE cor. SE sec. 26-10-1e. Comp.; pmp. 12 B.P.D.; T.D. 1,521 ft.; 6-in. csg. 1,510 ft.

Lincoln Parish

Gulf Oil Corp. No. 2 Patton, SW cor. NW SE sec. 6-20-4. Swbg.
Love Bros. No. 1 Patton, SW SE sec. 6-20-4. Drlg. plugs.
Magnolia Pet. Co. No. 2-B Corbin, NW NW sec. 5-20-4. Drlg. 4,837 ft.
E. T. Oakes & Easton No. 1 Griggs, sec. 36-18-1w. Set 5½-in. csg. 6,259 ft.; Schlumberger survey showed sat. 6,231-40 ft.; prep. test.

Red River Parish

Arkansas Fuel Co. No. 1 Frankland Realty Co., NW sec. 20-11-9. Drlg. 5,693 ft.
Glassell & Whitehurst No. 1 LeLong, NE NW NE sec. 25-12-11. Set 13⅜-in. csg. 250 ft.
Yandell Rogers No. 5 Gaspair, SE SW sec. 27-13-11. S.D. fuel 2,250 ft.

Sabine Parish

Hunter Co. No. 1 Long Bell Lbr. Co., sec. 23-7-13. T.D. 3,016 ft.; tested S.W.; abd.
Hunter Co. No. 2 Long Bell Lbr. Co., C NE NE sec. 23-7-13. Loc.
W. L. Posey No. 1 Hale, C NE NW sec. 12-7-13. R.U.
Royal O. & G. Co. No. 1 Graham, NE cor. sec. 19-9-13. Set 10-in. csg. 52 ft.
Sutton Oil Co. No. 1 Sabine Lbr. Co., SE cor. NW NE sec. 23-7n-14w. Set surf. csg.

Tensas Parish

H. M. Jones No. 2 Chicago Mill & Ld. Co., NE SW sec. 31-12-10e. T.D. 460 ft.; S.D.

Union Parish

Joe Modisett No. 1 Frost Lbr., sec. 14-21-1e. T.D. 7,005 ft.; S.D.

Webster Parish

V. L. Foster No. 2 J. M. Mixon, SE sec. 21-21-10. Set 7-in. csg. 8,298 ft.; T.D. 8,339 ft.
H. L. Hunt Oil Co. No. 1 Hope, C SW NW sec. 24-21-10. R.U.
Magnolia Pet. Co. No. 1 Crichton Hrs., NE NW sec. 33-21-10. Drlg. 7,928 ft.
Magnolia Pet. Co. No. 7 Marshall, SW SE sec. 21-21-10. Drlg. 7,535 ft.
Magnolia Pet. Co. No. 2 Mixon, sec. 22-21-10. Drlg. 5,370 ft.
Magnolia Pet. Co. No. 1 Sexton Unit, NW SE sec. 32-23-9. Drlg. 3,247 ft.
North American Oil Co. No. 1 Coyle, NE SW sec. 28-21-10. Drlg. 6,035 ft.
North American Oil Consol. Co. No. 1 Stewart, C SE NE sec. 32-27-10. Drlg.
Ohio Oil Co. No. 2 Bodcaw Acct. 4, SW SE NW sec. 24-21-10. Drlg. 6,482 ft.
Ohio Oil Co. No. 48 Bodcaw Acct. 2, SE sec. 15-21-10. Drlg. 6,458 ft.
Ohio Oil Co. No. 23 Gray Acct. No. 1, SE sec. 27-21-10. Drlg. 5,413 ft.
Ohio Oil Co. No. 2 Warren Cox, SE sec. 23-21-10. Drlg. 6,895 ft.
A. G. Oliphant No. 2 Banks, C SE NW sec. 34-21-10. Drlg. 720 ft.
A. G. Oliphant No. 1 Hodges, NW sec. 34-21-10. Drlg. 4,275 ft.
W. G. Ray No. 1 Stewart, NE cor. sec. 33-21-10. Drlg. 4,451 ft.
Stanolind O. & G. Co. No. 1 Pardee Co., SW NE sec. 36-21-10. Drlg. 650 ft.
United Gas No. 6 Tillman, NE sec. 28-21-10. Comp.; 445 B.P.D. white oil; C. P. and T.P. 2,475 lbs.; T.D. 8,290 ft.; closed in.
Woodley Pet. Co. No. 5-B M. E. Gray, sec. 27-21-10. Drlg. 7,590 ft.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

F. J. LeBlanc No. 2 Wurzlow, sec. 17-22s-18e. S.D. 910 ft.
Texas Co. No. 15 State, sec. 20-22s-18e. Top salt 5,704 ft.; T.D. 5,737 ft.; S.D.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 1 Schwing, sec. 67-9s-11e. T.D. 5,242 ft.; rmg.

Bayou Cocotrix—Terrebonne Parish

Shell Pet. Corp. No. 4 Pelican, sec. 19-17s-15e. 10¾-in. csg. 2,452 ft.; drlg. sh. 7,300 ft.

Bayou De Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 St. Charles Ld. Co., sec. 38-15s-20e. 10¾-in. csg. 2,698 ft.; coring sdy. sh. 9,061 ft.

Black Bayou—Calcasieu Parish

Shell Pet. Corp. No. 39 Watkins. T.D. 5,703 ft.; rmg.

Bosco—Acadia Parish

Superior Oil Co.-Pure Oil Co. No. 5 Larcade, sec. 35-8s-3e. T.D. 10,216 ft.; P.B.; sdtrkd.; T.D. 9,927 ft.; 9⅝-in. csg. 7,536 ft.; drlg. sh. 10,139 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 20 School Ld. sec. 16-14s-13w. Drlg. sdy. sh. 3,110 ft. no report.
Magnolia Pet. Co. No. 21 Cameron Meadows, sec. 21-14s-13w. 13⅜-in. csg. 1,173 ft.; 9⅝-in. csg. 4,080 ft.; W.O.C. no report.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 4 Weil, sec. 53-1s-2e. Drlg. 4,312 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 1 Eucer, sec. 11-13s-9e. Drlg. sh. 7,711 ft.
Pan American Prod. Co. No. 1-B Eucer, sec. 11-13s-9e. Cored O.S. 1,860-1,908 ft.; tstg.; R.U. to pmp.

Choctaw—Iberville Parish

Louisiana Crusader Oil Co. No. 1 E. B Schwing, sec. 29-8s-11e. Drlg. rk. 7,856 ft.
Standard Oil Co. No. 8 Gay, sec. 52-9s-11e. T.D. 4,221 ft.; P.B. 4,169 ft.

Darrow—Ascension Parish

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. R.U.
Humble O. & R. Co. No. 1 Rose, sec. 33-10s-2e. 10¾-in. csg. 2,966 ft.; drlg. sdy. sh. 5,110 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 18 State, sec. 5-22s-16e. T.D. 7,606 ft.; P.B. 6,113 ft. to sdtrk.; T.D. 7,275 ft.; abd.
Texas Co. No. 21 State, sec. 5-22s-16e. Drk.

Fausse Point—Iberia Parish

Texas Co. No. 4 State, sec. 35-11s-8e, 18⅝-in. csg. 90 ft.; drlg. 2,612 ft.

Four Isle—Terrebonne Parish

Texas Co. No. 9 L.L.&E., sec. 24-21s-16e. T.D. 8,553 ft.; P.B. 3,881 ft.; sdtrk.; T.D. 6,943 ft.; fsg.

Garden Island—Plaquemines Parish

Texas Co. No. 25 State, sec. 37-23s-33e. Drlg. sh. 4,729 ft.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 2 Mary McIvor, sec. 14-9s-8w. T.D. 7,165 ft.; 5-in. csg. 7,165 ft.; flwd. S.W.; make squeeze job; perf. csg. 7,140-41 ft.
Union Sulphur Co. No. 6 Kaufman, sec. 13-9s-8w. Drlg. sh. 5,212 ft.

Hackberry—Cameron Parish

W. T. Burton No. 3 Lewis, sec. 22-12s-10w. R.U.
W. T. Burton No. 2 Porter Ellender, sec. 27-12s-10w. Drlg. sh. 5,124 ft.
F. J. LeBlanc No. 1 Doiron, sec. 36-12s-10w. R.U.R.
M. P. O'Meara No. 1 Rigmaden heirs, sec. 22-12s-10w. Abd.
Stanolind O. & G. Co. No. 8 Carter & Sweeney, sec. 22-12s-10w. R.U.
Stanolind O. & G. Co. No. 10 Carter & Sweeney, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 27 Gulf Ld., sec. 22-12s-10w. T.D. 4,075 ft.; perf. csg. 3,082-96 ft.; swabbing.
Texas Co. No. 3-B State, sec. 12-12s-9w. T.D. 7,695 ft.; P.B.; sdtrkd.; dry; sd. &sh. 7,378 ft.; no report.
Union Sulphur Co. No. 1 Doiron, sec. 37-12s-10w. T.D. 4,888 ft.; 7-in. csg. 4,876 ft.; no report.

Iowa—Jeff Davis Parish

Magnolia No. 13 Wait, sec. 12-9s-7w. Drlg. sdy. sh. 4,212 ft.

Lockport-Cameron Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. Drlg. sh. 7,512 ft. No report.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Teche Sugar Co., sec. 58-13s-8e. Drlg. sh. and sd. 8,187 ft.

Jennings—Acadia Parish

W. T. Burton No. 5 Roboria, sec. 42-9s-2w. Drlg. sh. 4,937 ft.
H. Fostiades et al No. 1 Washington-Opelousas, sec. 41-9s-2w. Drlg. sh. 2,629 ft. No report.
Glassell & Glassell No. 4 Trushell, sec. 42-9s-3w. T.D. 6,998 ft.; perf. csg. 6,890-6,930 ft.; no ga.
Gulf Ref. Co. No. 39 Arnaudit, sec. 47-9s-2w. T.D. 4,840 ft.; fsg.
Jolly Pet. Co. No. 2 McFarlain, sec. 41-9s-2w. Drlg. 2,010 ft.
Ladak Oil Co. No. 3 Clement, sec. 46-9s-2w. T.D. 1,997 ft.; 6⅝-in. csg. 1,790 ft.; I.P. 115 B.P.D.; pmpg.
M. P. O'Meara No. 1 Moresi, sec. 41-9s-2w. T.D. 7,037 ft.; I.P. 800 B.P.D.; ¼-in. ck.
Jolly Pet. Co. No. 5 Jennings-Haywood, sec. 46-9s-2w. Drk.
Reiter Foster Oil Co. No. 2 Crusel, sec. 42-9s-2w. T.D. 3,908 ft.; P.B. 3,746 ft.; failed to flow; pull screen; S.D.
Shell Pet. Corp. No. 3 Community, sec. 40-9s-2w. T.D. 7,131 ft.; W.O.C.
Stanolind O. & G. Co. No. 19 Houssiere-Latreille, sec. 47-9s-2w. Drlg. sh. 5,610 ft.
Superior Oil Co. No. 1 Julis Clement, sec. 46-9s-2w. Drlg. sh. 6,938 ft.
Superior Oil Co. No. 5 Jennings-Heywood, sec. 41-9s-2w. Drlg. sh. 5,857 ft.
Superior Oil Co. No. 7 Leckelt, sec. 42-9s-2w. 7-in. 7,202 ft.; I.P. 300 B.P.D.; ¼-in. ck.
Superior Oil Co. No. 9 Leckelt, sec. 42-9s-2w. Drlg. sh. 5,944 ft.
Victor Weisse No. 1 Clement, sec. 46-9s-2w. Cg. 3,750 ft.

Lafitte—Jefferson Parish

Texas Co. No. 8 Rigolet, sec. 29-17s-24e. 13⅜-in. csg. 1,923 ft.; cored O.S. 10,092-97 ft., 10,123-28 ft.; T.D. 10,285 ft.; running csg.
Texas Co. No. 9 Lafitte, sec. 20-17s-24e. Drlg. sh.&L. 5,807 ft.
Texas Co. No. 1 Marrero Land & Investment Co., sec. 20-17s-24e. 13⅜-in. csg. 1,937 ft.; drlg. sd.&sh. 5,196 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 7 Lafourche, sec. 12-18s-25e. 7-in. csg. 8,074 ft.; drlg. sd.& sh. 9,297 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 13 State, sec. 8-23s-18e. T.D. 6,605 ft.; D.S. stuck; P.B. and sdtrkd; drilled to T.D. 6,555 ft.; 7-in. csg. 6,555 ft.; I.P. 909 B.P.D.; ¼-in. ck.

Lockport—Calcasieu Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. S.D. 7,237 ft.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 2 State, sec. 65-17s-19e. R.U.
Fohs Oil Co. No. 3 State, sec. 65-17s-19e. 10¾-in. csg. 2,743 ft.; T.D. 9,539 ft.; sd. 9,517-33 ft.; P.B. 9,464 ft.; perf. csg. 9,482-96 ft.; core sh. 10,082 ft.

Leesville—Plaquemines Parish

Texas Co. No. 63 Leesville, sec. 27-12s-22e. R.U.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Frank Wurzlow, sec. 6-19s-19e. 13⅜-in. csg. 2,796 ft.; cored sd. and sh. show. oil 8,215-25 ft.; cg. 9,200 ft.

New Iberia—Iberia Parish

Wm. Hellis No. 4 Gulf Land, sec. 52-12s-7e. Drlg. sdy. sh. 3,235 ft.; no report.
Wm. Hellis No. 9 Bernard, sec. 54-12s-7e. T.D. salt 5,171 ft.; P.B. and sdtrkd. sd.&sh. 4,538 ft.; T.D. 4,661 ft.; sal. P.B.; sdtrkd.; drlg. sd. 5,366 ft.; no report.
Wm. Hellis No. 10 Bernard, sec. 54-12s-7e. R.U.
Texas Co. No. 3 Bryant, sec. 25-12s-7e. Drlg. sdy. sh. 5,041 ft.; no report.
Texas Co. No. 1 Burke, sec. 56-12s-8e. Drlg. sh. 7,110 ft.; no report.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 H. J. Habetz, sec. 45-8s-1e. T.D. 8,145 ft.; oil sd.; run 7-in. csg.
Humble O. & R. Co. No. 1 Habetz, sec. 3-9s-1e. Cg. sh. 9,821 ft.

Roanoke—Jeff Davis Parish

Superior Oil Co. No. 1 Ferguson, sec. 13-9s-4w. T.D. 9,006 ft.; abd.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 L. L. Barnard et al, sec. 16-10s-4e. 10¾-in. csg. 1,070 ft.

South Elton—Jeff Davis Parish

Stanolind O. & G. Co.-Amerada Pet. Corp. No. 3-B Calcasieu Natl. Bank, sec. 27-7s-3w. Cg. sh. 8,583 ft.

South Jennings—Jeff Davis Parish

Loffland Bros. No. 1 Fontenot, sec. 18-10s-3w. T.D. 9,003 ft.; 7-in. csg. 8,9[illegible] ft.; P.B. 8,904 ft.; perf. csg. 8,870-[illegible] ft.; swbd. S.W.; perf. csg. 8,880-90 ft. showed S.W.; P.B. T.D. 8,665 ft.; perf. csg. 8,658-63 ft.; I.P. 51 bbls. of 50-grav. distillate per day; 7/32-in. ck.; T.P. 3,000 lbs.; C.P. 3,100 lbs.

Starks—Calcasieu Parish

Capital Oil Co. No. 1 Lutcher-Moore, sec. 24-9s-13w. R.U.
Lutcher Moore No. 3 fee, sec. 19-8s-12w. T.D. 4,361 ft.; 6⅝-in. csg. 4,351 ft.; flwd. P.L.O.; started making gas; pull screen to deepen.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 853 fee, sec. 20-9s-10. T.D. 1,039 ft.; run 10¾-in. csg.; drlg. sh. 4,518 ft.; no report.
Union Sulphur Co. No. 852 fee, sec. 29-9s-10w. Drlg. sd. 3,689 ft.; T.D. 4,262 ft.; P.B. 3,750 ft.; sdtrkd.; drlg. sh. 4,415 ft.; no report.

Tepetate-Acadia Parish

Continental Oil Co. No. 4-D Homeseekers Dev. Co., sec. 34. Drlg. sh. 7,512 ft.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 13 Harang, sec. 8-17s-20e. 16-in. 210 ft.; T.D. 7,086 ft.; P.B. 3,343 ft.; drlg. sh. 4,553 ft.
Pan American Prod. Co. No. 14 Harang, sec. 9-17s-20e. 10¾-in. csg. 1,838 ft.; T.D. 6,941 ft.; I.P. 240 B.P.D.; ¼-in. ck.

Venice—Plaquemines Parish

Tide Water Oil Co. No. 5 Manhattan Fruit Co., sec. 26-26s-30e. Drlg. sh. 2,010 ft.

Vinton—Calcasieu Parish

Katina Oil Co. No. 2 Vincent, sec. 34-10s-12w. T.D. 4,303 ft.; P.B. 3,227 ft.; swbd. oil and S.W.; S.D.
Superior Oil Co. No. 2 Levy, sec. 4-11s-12w. T.D. 5,790 ft.; P.B. 2,000 ft.
Sutton-Burton No. 1 Calcasieu Natl. Bk., sec. 3-11s-12w. Drlg. sh. 3,810 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 La. Ld. Improvement Co., sec. 46-3s-2e. 18⅝-in. csg. 247 ft.; drlg. sh. 5,750 ft.

White Castle—Iberville Parish

T. D. Humphray No. 1 E. B. Adams, sec. 1-11s-12e. S.D. 6,067 ft.; P.B. and sdrkd T.D. 8,794 ft.; P.B. 8,694 ft.; prep. to sdtrk.
Shell Pet. Corp. No. 11 Wilbert. T.D. 6,588 ft.; sd. show oil.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,106 ft.; P.B. to approx. 500 ft.; S.D. 3,850 ft.
Gulf Oil Corp. No. 1 Euclia Broussard sec. 49-10s-2w. T.D. 9,678 ft.; 7-in. csg. 9,672 ft.
Humble O. & R. Co. No. 1 R. A. Sarver, sec. 35-10s-1e. 9⅝-in. csg. 7,550 ft.; T.D. 10,272 ft.; abd.

Calcasieu Parish

D. & D. Oil Co. No. 2 Lutcher-Moore, sec. 1-8s-13w. T.D. 8,340 ft.; run 9⅝-in. csg.; drlg. plug; csg. colpsd; T.D. 8,579 ft.; 1,747 ft. of 7-in. csg. cmtd. 8,579 ft.; T.D. 9,674 ft.; P.B. 8,579 ft.; perf. csg. 8,550-60 ft.; tstd. gas cut mud with S.W.; P.B. 8,400 ft.; perf. csg. 8,396-8,418 ft.; recov. 30 stands of S.W.; plugging back to test; perf. 6,975-7,030 ft.; tstd. 13 thribbles of mud showing gas; abd.
Republic Prod. Co. No. 1 Sabine Tram Co. sec. 25-18s-14w. 10¾-in. csg. 1,981 ft. T.D. 9,600 ft.; fsg.
Union Sulphur Co. No. 1 American Oil & Sulphur Co., sec. 16-10s-10w. T.D. 8,002 ft.; S.D.
Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. 15½-in. csg. 46 ft.; W.O.C.

Cameron Parish

Humble O. & R. Co. No. 1 Miami Corp., sec. 8-14s-5w. 20-in. pipe set 188 ft.; 9⅝-in. csg. 7,100 ft.; T.D. 10,177 ft.; D.S. stuck; P.B. 8,155 ft.; to sdtrk.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State-Gulf of Mexico, 3,800 ft. W, 6,200 ft. S of SE cor. of irregular sec. 4-15s-8w. 10¾-in. csg. 1,157 ft.; T.D. 7,166 ft.; 7⅝-in. csg. 7,166 ft.; drlg. sd.&sh. 7,751 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Elliott, sec. 3-9s-2e. T.D. 7,678 ft.; S.D.

Evangeline Parish

Schlicher Prod. Co. No. 2 Ledenois, sec. 35-3s-1w. 10¾-in. csg. 250 ft.

Iberia Parish

Texas Co. No. 2-B Vermilion Bay, sec. 20-16s-5e. T.D. 9,101 ft.; P.B. and sdtrkd. at 5,788 ft.; drlg. sh.&L. 6,279 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 3,752 ft.; D.S. stuck.

Jefferson Davis Parish

Continental Oil Co. No. 1 Faye, sec. 31-10s-3w. 10¾-in. csg. 1,999 ft.; cg. sh. 10,117 ft.
Humble O. & R. Co. No. 1 T. S. Stegall, sec. 20-9s-5w. 13⅜-in. csg. 2,032 ft.; cg. sh. 8,679 ft.
Union Sulphur Co. No. 1 Calcasieu National Bank, sec. 12-9s-6w. T.D. 8,524 ft.; 7-in. csg. cmtd. 8,524 ft.; P.B. T.D. 8,310 ft.; tstd. S.W. through perforations 8,292-95 ft.

Lafourche Parish

Amerada Pet. Corp. No. 1 South Coast Corp., sec. 34-15s-19e. T.D. 8,745 ft.; 9⅝-in. csg. 7,636 ft.; cored O.S. 10,208-14 ft.; cored 10,219-24 ft.; recovered 3 ft. O.S., 2 ft. S.W. sd.; T.D. 10,314 ft.; 7-in. csg. 9,003 ft.; will run 5-in. csg. to bttm.
Gulf Oil Corp. No. 3 State (P.P.), sec. 35-23-21. T.D. 8,728 ft.; salt; P.B. to perf. csg.; perf. csg. 6,955-63 ft.; recvd. 4-

640 ft. of oil, 360 ft. of S.W.; 25 lbs. pres. in 7 min.

St. Bernard Parish

Gulf Oil Corp. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; T.D. 3,461 ft.; 7-in. csg. 3,461 ft.; drlg. sh. 4,988 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Fredericks, sec. 38-8s-5e. Drlg. sdy. L. 8,916 ft.

Shell Pet. Corp. No. 1 Unit, sec. 11-14s-12e. Drlg. sh. 2,706 ft.

Texas Co. No. 10 St. Martin, sec. 15-8s-7e. T.D. 9,141 ft.; abd.

St. Mary Parish

Shell Pet. Corp. No. 1 Barbour, sec. 21-15s-12e. Drlg. sd.&sh.

Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. 7⅝-in. csg. 10,515 ft.; T.D. 11,879 ft.; soft formation; P.B. 11,100 ft.; 5¾-in. csg. 10,245 ft.; perf. csg. 10,978-85 ft.; tstd. S.W.; squeezed off perfs.; P.B. 10,911 ft.; perf. csg. 10,900-05 ft.; I.P. 350 B.P.D.; ⅞-in. ck.

Terrebonne Parish

Fohs Oil Co. No. 1 Buckley & Bourg, sec. 77-19s-17e. Bldg. drk.

TEXAS

Week Ending January 1

GULF COAST FIELDS

Lockridge—Brazoria County

Gulf Oil Corp. No. 3 Gibson, J. W. Hall Sur. Drk.

Gulf Ref. Co. No. 3 Reiss, J. W. Hall Sur. T.D. 6,368 ft.; 7-in. csg. 6,368 ft.; tstg.

Gulf Oil Corp. No. 1 Great Southern, E. D. Robertson Sur. 9⅝-in. csg. 7,145 ft.; T.D. 9,227 ft.; fsg.; P.B. and sdtrkd.; T.D. 9,684 ft.; 7-in. csg. 9,684 ft.; fsg.

Shell Pet. Corp. No. 5-A Ramsey, J. W. Hall Sur. T.D. 6,367 ft.; comp.; no gauge.

Shell Pet. Corp. No. 3-B Ramsey, J. W. Hall Sur. No. 10. T.D. 6,368 ft.; I.P. 388 B.P.D.; 11/64-in. ck.

Hastings Field—Brazoria County

Humble O. & R. Co. No. 6 W. F. Beers, Perry and Austin Sur. T.D. 6,070 ft.; tstg.

Humble O. & R. Co. No. 4 W. G. McDeed, H.T.&B. Sur. No. 30. T.D. 6,080 ft.; tstg.

Humble O. & R. Co. No. 2 Cecil O'Connor, H.T.&B. Sur. No. 29. T.D. 5,650 ft.; tstg.

Humble O. & R. Co. No. 4 Schindler, H.T. &B. Sur. No. 30. T.D. 6,080 ft.; I.P. 28 B.P.H.

Humble O. & R. Co. No. 5 W. H. Schindler, H.T.&B. Sur. No. 30. Coring sd. 6,029 ft.

Jay Simmons No. 2 C. H. Alexander, H.T. &B. Sur. No. 28. Coring sd. 6,000 ft.

Stanolind O. & G. Co. No. 1 L. B. Bisbee, H.T.&B. Sur. No. 37. T.D. 6,080 ft.; I.P. 587 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. 3 F. N. Brown, H.T.&B. Sur. No. 29. T.D. 5,910 ft.; I.P. 481 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 6 Cannon, H.T. &B. Sur. No. 36. T.D. 5,885 ft.; 7-in. csg. 5,876 ft.; I.P. 585 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 6 Guido, H.T.&B. Sur. No. 36. T.D. 5,515 ft.; 7-in. csg. 5,512 ft.; I.P. 522 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 3 W. S. Wright, H.T.&B. Sur. No. 37. Drlg. sh. 4,567 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 2 Armstrong, Polly & Chance Sur. Coring sh. 10,620 ft.

Harrison & Abercrombie No. 1 Copeland-Osborne C. Breen Sur. 7-in. csg. 11,028 ft.; T.D. 11,301 ft.; perf. csg. to test.

West Columbia—Brazoria County

Sterling O. & R. Co. No. 1 Smith, Geo. Tennille Sur. Recvd. P.L.O. on D.S.T., 5,900-15 ft.; run csg.

Texas Co. No. 18 Abrams, George Tennille Sur. T.D. 5,665 ft.; 7-in. csg. 5,545 ft. I.P. 560 B.P.D.; ¼-in. ck.

Texas Co. No. 1 Goldman, G. Tennille Sur. 7-in. csg. 5,500 ft.; I.P. 580 B.P. D.; ¼-in. ck.

Texas Co. No. 3 Smith, G. Tennille Sur. R.U.

Calhoun—Heyser—Victoria County

Blanco Oil Co. and Buchanan No. 4 C. S. Dunnwoody, A. Sisneros Sur. Drlg. 4,220 ft.

Blanco Oil Co.-Buchanan No. 6 C. Dunwoody, A. Sisneros Sur. R.U.

George Echols No. 7 W. H. Bennett, J. E. Galban Sur. Drlg. 2,930 ft.

Gulf Oil Corp. No. 1 Bonner, J. E. Galban Sur. Coring sdy. sh. 5,837 ft.

Gulf Oil Corp. No. 2 L. P. Schultz, J. E. Galban Sur. Bldg. drk.

Gulf Ref. Co. No. 2-B Traylor, J. E. Galban Sur. Spd.

Humble O. & R. Co.-Plymouth Oil Co. No. 1 Vandeberg, J. Galban Sur. T.D. 6,033 ft.; tstg.

Humble O. & R. Co.-Plymouth Oil Co. No. 15, E. H. Welder, J. M. Rios Sur. T.D. 5,479 ft.; I.P. 16 B.P.H.; ⅞-in. ck.

Humble O. & R. Co. No. 18-B P. H. Welder, A. Sisneros Sur. R.U.

Magnolia Pet. Co. No. 3 O. M. Lander, J. E. Galban Sur. Drlg. sh. 4,780 ft.

Normandie Oil Co. No. 8 J. G. Cook, A. Sisneros Sur. T.D. 5,744 ft.; I.P. 135 B.P.D.; ¼-in. ck.

Sinclair Prairie Oil Co. No. 7 Wm. Bennett, A. Sisneros Sur. Drlg. sh. 4,739 ft.

Sun Oil Co. No. 4 Coffey, J. E. Galban Sur. Top sd. 5,740 ft.; tstg.; no report.

Seabreeze—Chambers County

Sun Oil Co. No. 2-A Hebert-Broussard, T.&N.O. Sur. 127. T.D. 8,490 ft.; 7-in. csg. 8,467 ft.; I.P. 116 B.P.D.; ¼-in. ck.

Hitchcock—Galveston County

N. W. Hunter No. 2 Stewart Title Guaranty Co., J. D. Moore Sur. Drlg. sh. 4,297 ft.

Silsbee—Hardin County

Republic Prod. Co.-Houston Oil Co. No. 1 Frazier, G. W. Brooks Sur. Cg. 6,010 ft.

Republic Prod. Co.-Houston Oil Co. No. 1 Howell, Geo. W. Brooks Sur. R.U.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 1-B Dopslauf, W.C.R.R. Sur. No. 2, Blk. 1. 16-in. csg. 64 ft.; T.D. 6,829 ft.; 7-in. csg. on bttm.; perf. csg. 6,821-27 ft.; swabbing.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 Moody, Reel & Trobough Sur. Drlg. sh. 2,552 ft.

Stanolind O. & G. Co. No. 1 M. E. Oates, Reels & Trobough Sur. T.D. 3,835 ft.; 7-in. csg. 3,835 ft.; flwd. oil and wtr.; went dead; R.U. to pmp.; tstg.

Friendswood—Harris County

Humble O. & R. Co. No. 4 Beamer, T. Choate Sur. Drlg. 2,910 ft.

Humble O. & R. Co. No. 1 Clover, T. Choate Sur. Spd.

Humble O. & R. Co. No. 1 C. R. Cottingham et al, T. Choate Sur. T.D. 6,090 ft.; I.P. 319 B.P.D.; ¼-in. ck.

Humble O. & R. Co. No. 1 J. L. Jones and E. A. Gray, Perry and Austin Sur. Drk.

Humble O. & R. Co. No. 1 Kiesling, T. Choate Sur. R.U.

Humble O. & R. Co. No. 1 J. H. Ross et al, T. Choate Sur. T.D. 6,050 ft.; fsg.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 3 Phelan, S. Stivers Sur. T.D. 2,941 ft.; surf. csg. collspd.

Magnolia Pet. Co. No. 3-A Phelan, S. Stevers Sur. R.U.

Hardin—Liberty County

Atlantic Ref. Co. No. 1 Wm. McMurtry, H. B. Johnson Sur. Drlg. sh. 3,033 ft.

Atlantic Ref. Co. No. 1 Murphy, H. B. Johnson Sur. 10¾-in. csg. 1,981 ft.

Jack Frazier No. 2 Lynott & Buffam, J. Robson Sur. R.U.

Jack Frazier No. 1 Buffam-Benning, J. Robson Sur. R.U.

Gulf Oil Corp. No. 1 V. B. Hinson, H. B. Johnson Sur. 10¾-in. csg. 1,908 ft.; T.D. 7,629 ft.; 7-in. csg. 7,629 ft.

Halliburton Oil Prod. Co. No. 1 Hanchey, H. B. Johnson Sur. R.U.

Humble O. & R. Co. No. 1 Chambers, A. B. Hardin Sur. T.D. 7,591 ft.; I.P. 653 B.P.D.; ¼-in. ck.

Humble O. & R. Co. No. 2 Myrtle Chambers, A. B. Hardin Sur. R.U.

Shell Pet. Corp. No. 1 Cessna, A. B. Hardin Sur. T.D. 7,596 ft.; 5-in. csg. 7,577 ft.; I.P. 574 B.P.D.; ¼-in. ck.

Strake Pet. Corp. No. 3 Finley, A. B. Hardin Sur. T.D. 7,560 ft.; P.B. 7,546 ft.; perf. csg. 7,543-46 ft.; tstd. S.W.

Strake Pet. Corp. No. 4 Finley, A. B. Hardin Sur. T.D. 7,545 ft.; rmg.

Sun Oil Co. No. 1 Cessna, A. B. Hardin Sur. Drlg. sh. 6,711 ft.

E. W. Wickes No. 1 Tullos, H. B. Johnson Sur. Drlg. 42 ft.

Woodley Pet. Co. No. 5 McMurtry, H. B. Johnson Sur. T.D. 7,572 ft.; perf. csg. 7,565 ft.; I.P. 15 B.P.H.; ¼-in. ck.

South Call—Newton County

Houston Oil Co. No. 2 Sabinetram, 10¾-in. csg. 1,936 ft.; T.D. 7,123 ft.; 7-in. csg. 7,105 ft.; flwd. oil; tstd. S.W.; T.D. 7,382 ft.; abd.

Houston Oil Co.-Republic Prod. Co. No. 3 Sabine Tram, H.&T.C. Sur., sec. 37. Drk.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 Sloan, J. T. Belknap Sur. 10¾-in. csg. 1,200 ft.; T.D. 9,000 ft.; I.P. 200 B.P.D.

Buckeye—Matagorda County

United North & South Development Co. No. 1 G.B.M., Cotton Lge. 7-in. csg. 8,667 ft.; T.D. 10,500 ft.; hole cleaned; W.O.O.

Palacios—Matagorda County

Atlantic Ref. Co. & McCarthy No. 3 Foley Ld. Co., L. Goodwin Sur. Spd.

Sun Oil Co. No. 1 Bay Shore Farms, Lewis Goodwin Sur. T.D. 11,327 ft.; 7-in. csg. 11,300 ft.; perf. csg. 9,800-25 ft.; squeezed cmt. behind csg.; perforating csg. 9,245-75 ft.

Orange—Orange County

Gulf Oil Corp. No. 1 Orange National Bk., Wm. Dyson Sur. R.U.

Glenn H. McCarthy No. 2 Brown, S. M. Luce Sur. R.U.

Union Prod. Co. No. 2 Lutcher-Moore, Dryson Sur. Drlg. sh. 2,630 ft.

Segno—Polk County

Gulf Ref. Co. No. 2 Wing, I.&G.N. Sur. No. 15. T.D. 5,194 ft.; 5½-in. csg. 5,158 ft.; I.P. 240 B.P.D.; ¼-in. ck.

Spurger—Tyler County

Republic Prod. Co. No. 6 Hurd, N. Hurd Sur. T.D. 7,710 ft.; 7-in. csg. 7,681 ft.; I.P. 612 B.P.D.; ¼-in. ck.

Keeran Field—Victoria

Union Oil Co. No. 8 Keeran Est., M. DeLeon Sur. T.D. 6,512 ft.; W.O.C.

GULF COAST WILDCATS

Brazoria County

Pure Oil Co. No. 1 Smith, S. F. Austin Sur. Cg. sh. 7,710 ft.

Texas Co. No. 4 Freeport Sulphur Co., C. Arriola Sur. 10-in. csg. 1,214 ft.; drlg. 3,890 ft.

Chambers County

Merit Oil Co. No. 1 T. & M. Wright, C. Smith Sur. T.D. 7,515 ft.; 7-in. csg. 6,602 ft.; perf. csg. 6,390-92 ft.; I.P. 27 B.P.D.; ¼-in. ck.

Standard Oil Co. of Texas and California Oil Co. No. 1 State Galveston Bay. Bldg. drk.

Colorado County

Coyle-Concord No. 1 Hancock-Broussard, Hill Duffner Sur. R.U.

Fort Bend County

Medford and Burke No. 1 M. T. Wood, S. M. Stevens Sur. Drlg. sh. 3,180 ft.

Grimes County

Hubert Holt No. 1 Greer et al, Patrick B. O'Connor Sur. Drk.

Harris County

Amerada Pet. Corp.-Stanolind O. & G. Co. No. 1 Mills, A. Larson Sur. Drlg. sh. 5,125 ft.

Stanolind O. & G. Co. No. 2 Warren Minerals, Walker Wade Sur. Drlg. sh. 7,138 ft.

Texas Gulf Prod. Co. No. 1 Rath, W. C. Sevey Sur. 10¾-in. csg. 1,483 ft.; T.D. 7,698 ft.; S.D.; W.O.O.

Jackson County

Sam G. Harrison et al No. 1 H. A. Meyers, O. York Sur. 10¾-in. csg. 530 ft.; T.D. 5,703 ft.; tstd. S.W. on D.S. test 5,527-44 ft.

Magnolia Pet. Co. No. 1 West Ranch, R. Musquez Sur. Drlg. sh. 2,137 ft.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. Bldg. drk.

Shell Pet. Corp. No. 1 W. P. McFaddin, S. A. Pace Sur. T.D. 5,929 ft.; I.P. 25 bbls. P.L.O. per hr.; ¼-in. ck.

Glenn McCarthy No. 1 J. E. Broussard, C. Hillbrand Sur. T.D. 7,732 ft.; recvd. 29 thribbles of oil, 4 thribbles of S.W. on D.S.T.; run csg.

Liberty County

Humble O. & R. Co. No. 1-A E. F. Moore, B. Barrows Sur. T.D. 6,480 ft.; abd.

Matagorda County

Sun Oil Co. No. 1 Fred Robbins, C. H Vandeveer Sur. Drlg. sh. 8,452 ft.

Polk County

National Standard Oil Co. No. 1 W. T Carter, M. S. Womack Sur. T.D. 2,920 ft.; P.B. 2,400 ft.; abd.

Stewart Oil Co. No. 1 Galloway, J. Ringgold Sur. T.D. 4,255 ft.; abd.

Trinity County

J. R. Bunn No. 1 Rock-Creek Lbr. Co., John Crew Sur. Drlg. 1,037 ft.; no report.

S. T. Walker et al No. 1 First State Bk. 10¾-in. csg. 150 ft.; no report.

Waller County

C. W. Markel et al No. 1 Hall, B. B. Guerrgnd Sur. No. 261. R.U.

Stanolind O. & G. Co. No. 1 Security Trust Co., H.&T.C. Sur. T.D. 7,526 ft.; 7-in. csg. 7,526 ft.; perf. csg. 7,450-60 ft.; showed S.W.; P.B.

Wharton County

Pierce Est., Inc. No. 1 Pierce Est., I.&G.N. Sur. No. 7. Drlg. sh. 1,830 ft.; no report.

Strake Pet. Co. No. 1 Strunck, L. P. Jennings Sur. Cg. 6,438 ft.; no report.

S. W. TEXAS WILDCATS

Atascosa County

L. W. Steiren No. 1 Crawford, 4 mi. W of Anchorage. Cored Austin Chalk with showing of oil 3,476-79 ft.; S.D.; bad roads.

Bastrop County

J. W. Bibb No. 1 Lentz, F. Wilkenson Sur Top Austin Chalk with odor of oil 2,530 ft.; T.D. 2,538 ft.; S.D.; W.O.O.

Southern Cross Oil Co. No. 1 Smith, James B. Blalock Sur. Drlg. 1,112 ft.

Bexar County

Hikok & Reynolds No. 1 Eivert, Thomas York Sur. Spd.

Chas. Persyn No. 1 fee, Wm. Lindsey Sur. R.U.

Caldwell County

Fain Gillock No. 1 Kelly, Berry Sur. Acd.; swbd. wtr. and oil; 5½-in. at 1,457 ft.; T.D. 1,841 ft.; abd.

Mac-Wag-Tree Oil Co. No. 1 Roberts, W. House Sur. Drlg. 2,256 ft.

D. H. Wilson No. 1 Alexander, D. Benton Sur. 7-in. csg. 1,800 ft.; T.D. 2,250 ft.; abd.

Cameron County

Saxet Prod. Co. No. 1 Port Isabel Irrig. Co. Sur. 30. Drk.

The MILLER is the ace in the hole for removing sand and sediment that holds back production—clean out quickly at small cost—the Sand Pump with the powerful suction action—in World Wide use.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes Heavy Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

- **BAILER BOTTOM** — With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.
- **SAND BOTTOM** — Used when tools are run and when well is shot to quickly remove loose material.
- **STAR BOTTOM** — Used for cutting the sand loose.
- **CHISEL BOTTOM** (In Pump) — With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Page 1186 COMPOSITE CATALOG

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FOR SALE BY SUPPLY STORES EVERYWHERE

Dewitt County

F. A. Hines No. 1 Boothe, Jas. Swindel Sur. S.D. 141 ft.
D. M. Richardson No. 1 McCurdy, John C. Hunt Sur. Drk.

Dimmitt County

Teas & Maryland Corp. No. 1 McKnight, Blk. 13, sec. 23, Base of Austin Chalk 5,201 ft.; drlg. sh. 5,553 ft.

Duval County

Gillespie & Sons No. 1 Hamilton, J. Poitevent Sur. No. 85. Drk.
Karney Gravis No. 1 Frederick, J. H. Gibson Sur. Core sh. 1,036 ft.
James Hougen No. 1 Patton, Sur. No. 148. Drlg. sh. 4,439 ft.
Magnolia Pet. Co. No. 1 Duval County Ranch Co., G.B.&N.C.R.R. Sur. No. 61. Cg. sh. 2,680 ft.
Magnolia Pet. Co. No. 1 A. Lopez, M. Lopez Sur. No. 82. Drlg. sh. 4,001 ft.

Edwards County

Amon G. Carter No. 1 Sweeten, SE¼, Blk. 2, Sur. 49. T.D. 5,111 ft.; 9-in. csg. 5,630 ft.
Dan Auld No. 1 Henderson, sec. 46, Blk. E, Drlg. sdy. L. 1,865 ft.; no report.
C. V. Lyman No. 1 Brown, Blk. 3, O.W. D.D.; T.D. 3,001 ft.; cleaning out hole.

Frio County

Pagenkopf & Jamieson No. 1 Houston Est., 2,254-ac. tr., J. Figuerroa Sur. S.O. 2,610-03 ft.; set csg. to test 7-in. at 2,480 ft.; swbg.; S.O.&G. and wash wtr.; T.D. 2,651 ft.; set csg.; P.B. 2,607 ft.; pmpg. 30 bbls. fluid per day, 60 per cent oil; fluid decreasing.

Goliad County

Goliad Oil Corp. No. 1-A Cole, Lot 33, Goliad town tr. T.D. 5,687 ft.; P.B. 5,609 ft.; prep. to perf. liner from 5,500 ft. to 5,603 ft.; cutting and pulling drill stem; abd.
Standard Oil Co. of Texas No. 1 Williams, Micajah Williams Sur. 10¾-in. csg. 436 ft.; drlg. sh. 2,760 ft.
Ruai Swiger No. 1-B Wood, J. Shearn Sur. T.D. 5,048 ft.; S.W. sd.; oil sd. 5,044-48 ft.; perf. csg. 5,008-25 ft.; swbd. S.W.; set retainer 5,000 ft.; squeezed off perf.; reperf. csg. 5,009-14 ft.; swbg. some oil.

Guadalupe County

F. H. Gallagher No. 1 Howell, J. Darst Sur. No. 10. S.D. 3,000 ft.
Kreiger & Douglass No. 1 Oliver, R. Smith Sur. S.D. 1,367 ft.
Pegg Bros. No. 1 Rumph, J. H. Burnham Sur. R.U.
Henry W. Whitehall, Tr., No. 1 Rosenbrock, Vincente Duran Sur. Drk.

Hidalgo County

Atlantic Ref. Co. No. 1 American Rio Grande. 7-in. csg. 8,505 ft.; T.D. 9,104 ft.; 5-in. csg. on bttm.
Y. & B. Oil Co. No. 1 Waite, Tr. 382, Los Jidos Gr. Drlg. sh. 6,312 ft.

Jim Wells County

H. M. Hill et al No. 1 Kuether, Lots 70 and 75, sec. 52, Haldeman Subd. S.D. 3,273 ft.
Howell et al No. 1 Talbot, 181-ac. tr., Lavaca Gr. T.D. 6,012 ft.; P.B. 5,179 gas, some oil; reperf. csg. 3,317-22 ft.; swbg.; showing S.W.; squeezed off perf. 3,600-07 ft.; tstd. S.W.; S.D.
Pan American Prod. Co.-Southern Minerals Corp. No. 1 Hawkins, San Diego De Abajo Gr. 10-in. csg. 525 ft.
H. J. Porter No. 1 Charles E. Walcott Zenobia Cuellar Sur. 10¾-in. csg. 225 ft.; 10-in. csg. 516 ft.; T.D. 6,663 ft.; abd.

Karnes County

DeGraffe & Reele No. 1 Cochran, Daniel B. McConnell Sur. T.D. 1,401 ft.
Ivan Howard No. 1 Moczygemba, Erasmo Seguin 5. League Gr. Top sd S.O. 2,159 ft.; oil sd. 2,174-78 ft.; set csg. 2,187 ft.; T.D. 2,517 ft.; P.B. 2,178 ft.; perf. csg. 2,165-70 ft.; swbd., no results; abd.

Kenedy County

La Sal Vieja Oil Corp. No. 1 Garcia Ld. & Cattle Co., Blk. 95, Tr. 73. T.D. 9,005 ft.; abd.

Kleberg County

Cinco Oil Co. No. 1 Killam, Lot 8, Blk. 53, Kleberg Town & Imp. Co. Subd. Drlg. sh. 700 ft.
Magnolia Pet. Co. No. 1 Dietz, Gabriel Trevino Sur. 13⅜-in. csg. 1,220 ft.; drlg. sh. 4,312 ft.
Superior Oil Co. No. 1 Koch, sec. 32, Blk 26. Set surf. csg.; T.D. 7,512 ft.; abd.

LaSalle County

Ralph B. Reed No. 1 Yeager, Blk. 7, Sec 8, Wallace Subd., Yeager ranch. S.D. 1,020 ft.

Lee County

Jas. E. Pederson No. 1 Turner, David Hudson Sur. S.O.&G. 6,140-80 ft.; sdtrkd. at 4,600 ft. and drld. to 6,132 ft.; S.O.&G.; set csg. 6,021 ft.; acdzg. with 20-bbl. load; when opened well flwd. 20-bbl. head and went dead; swbd. oil and wtr.; acd.; pulling tbg. to rework and test; S.D.
Eleoussa Oil Co. No. 1 Sanders, J. Vin Roeder Sur. S.D. 3,995 ft.

Live Oak County

James Chew No. 1 Alma McNeil, Alexander Parks Sur. S.D. 2,030 ft.
C. Hannah No. 1 Wedding, B. Haughney Sur. Core. sd. 1,968 ft.
Edwin M. Jones No. 1 George West, Samuel Baird Sur. Cg. sd. 2,849 ft.
Loma Oil Co. No. 1 Pfluger, J. Turner Sur. Core sd. 1,141 ft.
Loma Oil Co. No. 1 Striddle, R.U.
Ray L. Martin No. 1 Adams, J. Buchannan Sur. Drlg. sh. 178 ft.
Ranco Oil Corp. No. 1 Cook Ranch sec. 3, J. Poitevent Sur. S.D. 3,900 ft.
V. G. Schimmel No. 1 West, sec. 59, Haas Sur. R.U.

McMullen County

Coyle & Bedwell No. 1 Two Rivers Rnch. Co., sec. 60. S.D. 60 ft.
Duncan Drlg. Co. No. 1 Martin Henry, sec. 6. S.D. 707 ft.
Harvey & Henderson No. 1 Nichols, Thomas Henry Sur. R.U.
Mills Bennett Prod. Co. No. 1 Nueces Ld. & Live Stock Co., Sur. No. 166. T.D. 1,575 ft.; abd.
Mills Bennett Prod. Co. No. 2 Nueces Ld. & Cattle Co., Sur. No. 234. Loc.
Richardson & McCarthy No. 2 Martin, Sur. No. 7. S.D. 525 ft.

Medina County

M. L. Walker No. 1 Riff, Hans Sur. No. 43. S.D. 920 ft.

Nueces County

L. A. Douglas No. 1 Charles McKenzie, Sur. 419. T.D. 5,913 ft.; oil sd.; recvd. P.L.O. on D.S.T.; run csg.
Richardson Pet. Co. No. 1 Chapman, sec. 43, Laureles Farm Tr. No. 43. Core sd. 5,409-24 ft.; run csg.
Southern Minerals Corp. No. 3 King, Tr. 6. T.D. 4,015 ft.; tstg.; perf. csg. 4,012-15 ft.; I.P. 1,500,000 ft. of gas.
Southern Minerals Corp. No. 1 Walker, R. Garcia Sur. 10¾-in. csg. 1,016 ft.; T.D. 6,400 ft.; may abd.
Union Prod. Co. No. 1 Simmons, 1,000-ac. tr., Agua Dulce Gr. Drlg. sh. 7,650 ft.

Refugio County

Hogan Oil Co. No. 1 Kelley, M. & A. Roache Sur. T.D. 6,437 ft.; P.B. 6,002 ft.; squeezed off perf. 5,995-6,002 ft.

San Patricio County

A. L. Bob No. 2 Green, T. T. Williamson Sur. Cg. sh. 6,537 ft.
Conroe Drlg. Co. No. 1 J. R. Daugherty, James McGloin Sur. T.D. 875 ft.; S.D.
Plymouth Oil Co. No. 1 Brigham, Geo. H. Paul Subd. Drlg. sh. 1,230 ft.
Rutherford O. Corp. No. 1 George, Lot 12, Geo. Paul Subd. T.D. 7,425 ft.; abd.
F. B. Schwab No. 1 Smith, Juan Hart & Sons Sur. T.D. 3,400 ft.

Starr County

James Calberona & Fallett No. 2 Rodriquez, Porc. 80. T.D. 1,488 ft.; abd.
Collins No. 1 Guerra, Sh. 6, San Jose Gr. T.D. 6,176 ft.; 7-in. csg. 6,170 ft.; cg. sd. 6,300 ft.
Doud Tr. No. 1 Wardner, Vela Sur., Porc 84. S.D. 1,265 ft.
W. W. Ely No. 1 M. G. Gonzales, Portion 70. Drlg. 2,326 ft.
Sioux Oil Co. No. 6 Ricaby, Porc. 83. T.D. 1,751 ft.; well blew out after being abd.; flwg. gas and mud.
Transwestern Oil Co. and Davenport No. 3 Slick, sec. 527. T.D. 6,862 ft.; rec. all but 75 ft. pipe; S.D.

Travis County

W. O. Caffey No. 1 Bremond, 104.5-ac. tr., Santiago del Valle Sur. S.D. 545 ft. abd.
C. A. Montgomery No. 1 Lundgren, Lemuel Kimbro Sur. Drlg. marl 700 ft.

Victoria County

W. V. Bowles No. 1 Robertson, T. C. Burnham Sur. T.D. 6,121 ft.; P.B. to sdtrk.; T.D. 5,629 ft.; D.S.T. 5,610-29 ft.; showed 120 ft. of oil, 120 ft. of S.W.; P.B. to sdtrk.; T.D. 5,114 ft.; I.P. 20 bbls. P.L.O. per day; ¼-in. ck.
Geo. Echols No. 1 Dunseth, Frances Perez Sur. Drlg. sh. 4,212 ft.

Webb County

Boysen & Jones No. 1 Watkins, San Casimero Gr. Drk.
Bridwell Oil Co. No. 1 Billings, Sur. 36. 10-in. csg. 40 ft.
Lemp Oil Co. No. 1 Clark, 500-ac. tr., Porc. 33. S.D. 1,365 ft.
Lewis et al No. 1 Garza, Sur. 48. T.D. 2,700 ft.; abd.
J. R. B. Moore No. 1 Garcia-Villareal, Blk. 8, S.M.&S. Sur. T.D. 1,950 ft.; tstg.
J. R. B. Moore No. 1 Garcia-Villareal, S. Mas Sur. Perf. csg. 2,430-35 ft.; comp. as gas well.
G. G. Mortimer No. 1 Frost, Sur. No. 73. T.D. 2,706 ft.; abd.
Nessly et al No. 3 A. M. Bruni, C.&M. R.R. Sur. 449. Oil sd. 1,803-07 ft.; T.D. 1,813 ft.; rng. csg.

Willacy County

Magnolia Pet. Co. No. 1 Armendaiz, San Juan DeCarricitos Gr., Sh. 4. Drlg. sh. 7,210 ft.

Wilson County

Pattico Oil Co. No. 1 Keller, Karnes Co. Sch. Ld. Sur. S.D. 1,235 ft.

Zapata County

Henry Brown No. 1 Juan Gutierrez, Charco De La Indian Gr. Drlg. sh. 557 ft.
Ray L. Martin No. 2 Vela, Sh. 4, E. L. Grullo Gr. 10-in. csg. 100 ft.; S.D.; M.I. heavy rig.

S. W. TEXAS PROVEN

Batesville—Zavalla County

Wilcox O. & G. Co. No. 2 Gillam, G.W.T. &P.R.R. Sur. T.D. 3,977 ft.; P.B. 3,958 ft.; treated with acid; swbg. sulfur wtr.

EAST TEXAS

(Border Counties)

Cass County

W. C. Feazel No. 1 Parker, G. Crowder Sur. T.D. 6,090 ft.; set 7-in. csg. 6,030 ft.; comp.; 168 B.P.D.; ½-in. ck.; T.D. 6,090 ft.

Bowie County

V. A. Hughes & Co. No. 1 Lysted, Wm. Bateman Sur. S.D. 1,913 ft.
Union Prod. Co. No. 3 Bangus Unit, Tromwell Sur. T.D. 6,044 ft.; drlg. plug.

Harrison County

Ark.-La. Gas Co. No. 1 C. M. Abney, E. Little Sur. T.D. 4,800 ft.; blew out gas and bridged; shutting in.

Marion County—Rodessa

Arkansas-Louisiana Gas Co. No. 1 Holland, Hanks Sur. R.U.
Arkansas-Louisiana Gas Co. No. 2 Wade Houston, Coy Sur. Set 7-in. 6,054 ft.; T.D. 6,094 ft.; comp.; 545 B.P.D.; ¼-in. ck.
Geo. Barham No. 1 Brantley, Bennington Sur. Comp.; 653 B.P.D.; T.D. 6,070 ft.
Fohs Oil Co. No. 1 Henderson, Ewing Sur. Drlg. 3,672 ft.
Fohs Oil Co. No. 1 Kemper, Bennington Sur. Drlg. 5,457 ft.
Gulf Ref. Co. No. 1 Beal, Hanks Sur. Set surf. csg.; W.O.C.
Gulf Ref. Co. No. 1 Grubaugh, Coy Sur. T.D. 6,126 ft.; 5-in. csg. 6,097 ft.; comp. 542 B.P.D.; ¼-in. ck.
Gulf Ref. Co. No. 1 Kemper, Bennington Sur. T.D. 6,085 ft.; set 5-in. csg. 6,053 ft.; comp.; 720 B.P.D.; ½-in. ck.
Hevser-Heard & Clardy No. 2 Henderson, R. Bennington Sur. Drlg. 5,927 ft.
King Oil Corp. No. 1 Ames, J. A. Tolbutt Sur. R.U.
Shell Pet. Corp. No. 2 Cooke, Bennington Sur. Set mid-string csg.; W.O.C.
Shell Pet. Corp. No. 1-B Henderson, Bennington Sur. T.D. 6,023 ft.; tstg.
Shell Pet. Corp. No. 2-A Henderson, Bennington Sur. Set mid-string csg.; W.O.C.
H. B. Turner et al No. 1 Scuddy, Ina Hanks Sur. Comp.; 500 B.P.D.; T.D. 6,025 ft.; 7-in. csg. 5,995 ft.

Panola County

C. K. Crews No. 1 Graves, McGowan Sur. Drlg. 1,935 ft.
Magnolia Pet. Co. No. 2 E. A. Hull, Thos. Applewhite Sur. T.D. 8,717 ft.; P.B. 5,950 ft.; perf. 5,906-36 ft.

WEST TEXAS WILDCATS

Andrews County

Black No. 1 O. B. Holt, P.S.L. Sur. W.O.C. 200 ft.
Drilling & Exploration Co. No. 1 Thornberry, P.S.L. Sur. M.I.M.
M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. S.D. 179 ft.
Gulf Oil Corp. No. 1 State, sec. 8, Blk. 14. Sulfur wtr. in hole; P.B.
Honolulu Oil Co. No. 1-6 Parker, sec. 6, Blk. A-66, P.S.L. Sur. Fsg. 4,527 ft.
Seaboard Oil Corp. No. 1 Munger-Nix, sec. 1, Blk. A-4, P.S.L. Sur. S.D.R. 315 ft.
H. C. Wheeler No. 1 T. M. Gardner, sec. 15, Blk. A-35, P.S.L. Sur. Cellar and pits.

Bailey County

Duffey & Etz No. 1 Enochs, Tract 66, League 182, Floyd Co. School Lands Sur. S.D.O. 4,160 ft.

Borden County

Continental Oil Co. No. 1-A Clayton, sec. 27, Blk. 32, Twp. 4n, T.&P. Sur. Drlg. 3,245 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 6,415 ft.
Toney Hess No. 1 Decie, C.T.R.R. Sur. S.D. 925 ft.
Strey No. 1 Wilson, sec. 3, Blk. 212, T.& St.L. Sur. S.D. 2,545 ft.

Cochran County

Devonian Oil Co. No. 1 Duggan, Oldham Co. Sch. Ld. Sur. S.D. 5,044 ft.
J. R. Meeker et al No. 1 Wright, Mills City Sch. Ld. Drlg. 4,730 ft.
P. N. Wiggins et al No. 1 Dean, NE cor. League 58, Martin Co. School Lands. Drlg. 5,027 ft.

Concho County

Tom Murray No. 1 R. G. Armor, sec. 105, T.&N.O. Sur. S.D. 70 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. Drlg. 1,490 ft.
H. L. Operator et al No. 1 Hawkins, sec. 390 Blk. B-21. Drlg. 600 ft.

Cottle County

F. P. Hinds et al No. 1 Lee, 5 mi. SW of Paducah, A.B.&M. Sur. Cg. 4,385 ft.
Wilcox O. & G. Co. No. 1 Richards et al, sec. 761, Blk. Y, W.&G. Sur. M.I.M.

Crane County

J. W. Hampton No. 1 Thackston, W. L. Wilkinson Sur. S.D. 2,200 ft.
Wilcox O. & G. Co. No. 1 McKnight, sec. 9, Blk. 46, Twp. 3s, G.M.M.B.&A. Sur. Drlg. 6,885 ft.

Crockett County

Moore Bros. No. 1 Perner, sec. 37, Blk. 2, I.&G.N. Sur. Drlg. 8,145 ft.
J. N. Simpson No. 1 Hoover, G.C.&S.F. Sur. Tstg. 2,067 ft.
Stewart & Cormas No. 1 Hoover, sec. 1, Blk. FF, B.B. Sur. Tstg. 1,923 ft.

Culberson County

Grisham & Hunter No. 1 fee, sec. 14, Blk. 42, P.S.L. Sur. M.I.S.T.
C. A. Jarrell et al No. 1 C. M. Caldwell, C of SW¼ sec. 15, Blk. 100, P.S.L. Sur. S.D. 507 ft.; H.F.O.; drlg. water well 150 ft.

Dawson County

Albaugh No. 1 Robinson, E.L.R.R. Sur. T.D. 5,038 ft.; tstg.

Dickens County

C. E. Litchfield No. 1 Harris, sec. 354, Blk. 1, H.&G.N. Sur. Drlg. 1,925 ft.
J. F. Morrisey et al No. 1 C. L. Bird, sec. 290, Blk. 1, H.&G.N. Sur. S.D.; W.O. 2,000 ft.

Ector County

Bodins et al No. 1 Edwards. Drlg. 4,054 ft.
Wentz Oil Co. No. 1-D Parker. C.O. 4,245 ft.
Fred Turner No. 1-A Parker. Comp.; I.P.F. 570 B.O.P.D.
Oil Well Dev. Co. No. 1 Cowden. Prep. shoot 4,287 ft.
L. H. Wentz Oil Co. No. 1-B Parker. Drlg. 4,235 ft.
Melhoan Drlg. Co. No. 1 Gulf Blakeney. Cg. 4,118 ft.

Edwards County

A. P. Carter No. 1 F. D. Sweeten, B.&R. Sur., 2 mi. E of Rock Springs. S.D.R. 5,180 ft.
Lyle & Dan Auld No. 1 Henderson, H.E. &W.T. Sur. S.D. 3,200 ft.
Richmond Drlg. Co. No. 1 Brown, G.W. T.&P. Sur. Drlg. 4,675 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. Drlg. 3,449 ft.

Fisher County

Daniel & Rhodes No. 1 Nichless, Geo. W. Lawrence Sur. C.O. 3,300 ft.
Dean Bros. No. 1 Young. Drlg. 2,645 ft.
General Crude Oil Co. No. 1 Morrow, sec. 185, Blk. 2, H.&T.C. Sur. Drlg. 3,537 ft.
Southern Oil Co. No. 1 Bocat, H.&T.C. Sur. S.D.O. 3,806 ft.

Floyd County

Mills Bennett No. 1 T. Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. Drlg. 3,570 ft.

Gaines County

Amerada Pet. Corp. No. 1 R. W. Robertson, sec. 196, Blk. G, W.T.R.R. Sur. W.O.C. 3,200 ft.
Carter, Continental & Plymouth et al No. 1 Geisecke. S.D. 2,130 ft.
Shell Pet. Corp. No. 1 M. B. Robinson, sec. 344, Blk. G, C.C.S.D.&R.G.N.G. Sur. Drlg. 4,257 ft.

Garza County

M. L. Richards No. 1 Slaughter. Drlg. 3,005 ft.

Glasscock County

O. B. Greathouse No. 1 Burns, sec. 221, Blk. 29, W.&N.W. Sur. Loc.

Hockley County

Sid Richardson No. 1 Slaughter, Maverick Co. Sch. Lds. Drlg. 710 ft.
The Texas Co. No. 2 Slaughter, Labour 92, League 37, Zavalla Co. Sch. Lds. Drlg. 4,965 ft.; S.O.

Howard County

Lockhart Oil Co. No. 1 Hussinger, sec. 67, Blk. 29, W.&N.W. Sur. Drlg. 500 ft.
W. F. McDermott et al No. 1 Lucas, sec. 18, Blk. 29, Twp. 1n, T.&P. Sur., 5 mi. N of Dodge pool. Drlg. 2,730 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp 6. Drlg. 3,490 ft.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 2,467 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,500 ft.

Lamb County

Toddie L. Wynne, Tr. No. 1 Naunschwander, Labour 1, League 660, State Cap'l. Lds. Drlg. 1,790 ft.

Loving County

Barnett Pet. Co. No. 1-A Johnson, sec. 2, Blk. 57, Twp. 1, T.&P. Sur. S.D.R. 3,728 ft.
Carpenter & Grierson No. 1 Mrs. Bennie Barnes, sec. 22, Blk. C-25, P.S.L. Sur. Loc.
Woodley Pet. Co. No. 1 Klah, T.&P. Sur. C.O. 3,962 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co. sec. 151, H.E.&W.T. Sur. Drk.

McCulloch County

Westbrook et al No. 1 Johnson, A. Nevendorf Sur. S.D. 1,803 ft.
Nixon No. 1 Pierce. S.D. 854 ft.

Martin County

Harris-Anderson Oil Corp. No. 1 Mollie Robinson, sec. 33, Blk. 38, T.&P. Sur. S.D.O. 4,002 ft.

Menard County

G. A. Clements No. 1 Murchison, sec. 86, B.S.&S. Sur., 8 mi. E of Menard. U.L. 310 ft.
C. D. Haggerty No. 1 Callon, sec. 36, Jno. Franz Sur. Spud. and S.D.

Nolan County

Marland-Drake Drlg. Co. No. 1 J. H. Withers, sec. 65, Blk. 21, T.&P. Sur. Loc.

Pecos County

Benedum No. 1 Trees, H.&G.N. Sur. Drlg. 4,805 ft.
J. J. Dorr et al No. 2 Payton, sec. 99, Blk. 8, H.&G.N. Sur. Cellar and pits.
Ed Falney No. 1 Trees, sec. 63, Blk. 8, H.&G.N. Sur. W.O.C. 2,055 ft.
E. W. Francis et al No. 1-A Westman, T.&S.L. Sur. S.D.O. 2,940 ft.
Humble O. & R. Co. No. 1 Belding et al. 9 mi. SW of Ft. Stockton. S.D.O. 2,718 ft.
Humble O. & R. Co. No. 1 Butz, sec. 104, Blk. O.W. S.D.R. 730 ft.
Humble O. & R. Co. No. 1 Pryor, sec. 100, Blk. OW. Comp. D.&A.
Magnolia Pet. Co. No. 1 McKee. S.D.O. 4,928 ft.
Messenger & Osborn No. 1 Humble-Young, sec. 49, Blk. 10, H.&G.N. Sur. S.D.R. 1,807 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 6,807 ft.
Thompson & Minshall No. 1 Michaelson, 660 ft. N and W, sec. 24, Blk. 146, T.& St.L. Sur. S.D. 2,105 ft.
Trans-Pecos Oil Co. No. 1 Gallagher, T.&P. Sur. U.R. 1,620 ft.
Trans-Pecos Oil Co. No. 3-A Papham, G.H.&S.A. Sur. S.D. 1,934 ft.
Walter K. Tuller No. 2 Perry. P.B. to 1,950 ft.
Wilcox O. & G. Co. No. 1 Serf, sec. 27 Blk. 130, T.&St.L. Sur. Drlg. 250 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk 12, G.H.&S.A. Sur. S.D. 4,375 ft.

Reeves County

Barnett Pet. Corp. No. 1 Ely, sec. 38, Blk 71, P.S.L. Sur., 12 mi. NW of Toyah. Drlg. 2,985 ft.
C. R. Mallison No. 1 Brown, sec. 62, Blk. 4, H.&G.N. Sur. Loc.
Ohio Oil Co. No. 1 Papham, sec. 18, Blk. 54, T.&P. Sur. R.U.S.T.

Runnels County

Homer Price No. 1 Beddo, sec. 51, Thompson, Casey Sur. S.D. 3,453 ft.
E Z Oil Co. No. 1 B. Fletcher, E. C. Good Sur. T.D. 4,394 ft.; S.D. 4,381 ft.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. Drlg. 4,910 ft.
Tex-Tor Oil Corp. No. 1 Judkins & Spencer, C of SW¼ sec. 33, Blk. A, A.&B. Sur. Drlg. 5,240 ft.

Scurry County

Robinson Drlg. Co. No. 1 Martin, sec. 147, H.&T.C. Sur. S.D. 3,515 ft.
T. G. Shaw Oil Co. No. 1 First Natl. Bank Fsg. 2,750 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, sec. 371, Blk. 2, H.&T.C. Sur., 12 mi. N Rotan. R.U.C.T.

Sutton County

Ordovician Oil Co. No. 1 Evans, sec. 1, L. Stubblefield Sur., 32 mi. SE of Sonora. S.D. 3,475 ft.

Terrell County

D. & S. Oil Co. No. 1 Sam Bell. S.D. 345 ft

Terry County

C. H. Hutto No. 1 Brownfield, E.L.R.R. Sur. Cg. 686 ft.

Tom Green County

Humble O. & R. Co. No. 1 Lewis & Ward law, sec. 5, Blk. 17, H.&T.C. Sur. Fsg. 3,811 ft.

Upton County

W. D. Riser et al No. 1 King Ranch Oil & Lignite Co., sec. 8, Blk. 3, M.K.&T. Sur. S.D.R. 15 ft.
Rutter et al No. 1 Egolb, sec. 5, J. H. Gibson Sur. S.D.O. 3,200 ft.
J. S. Pitman No. 1 D. Elder, C.C.S.D.& R.G.N.G. Sur., Blk. 3, sec. 14. S.D.R. 835 ft.

Ward County

Cities Service No. 2 Brandenburg, sec. 4, Blk. 32, H.&T.C. Sur. Drlg. 132 ft.
M. J. Delaney No. 1 J. E. Cooper, H.&T.C. Sur. Drlg. 2,523 ft.
J. E. Fitzpatrick et al No. 1 H. B. Carr, sec. 125, Blk. 34, H.&T.C. Sur. Bldg. drk.
J. E. Fitzpatrick et al No. 1 F. K. Dyer, sec. 135, Blk. 34, H.&T.C. Sur. R.U. S.T.
Hoss & Downey No. 1 Meyers, sec. 17, Blk. 32, H.&T.C. Sur. Loc.
Hoss & Downey No. 1 Ross Avery, sec 36, Blk. 1, H.&T.C. Sur. Drlg. 500 ft.

Hoard Exploration Co.

Seismograph Surveys

618 Esperson Bldg.

Houston - Texas

Patillo & Webster No. 1 Johnson. Drlg. 1,500 ft.
L. F. White et al No. 1 Rector-Monroe, E. cor. sec. 3, Blk. 1, W.&N.W. Sur. S.D. 4,710 ft.

Winkler County

Stogner & Pipkin No. 1 Blade, sec. 103, Blk. D, J. H. Gibson Sur. Loc.

Yoakum County

American Liberty Oil Co. No. 1 A. C Thomas, 2,227 ft. S and 440 ft. W, sec 864, Blk. D. Drlg. 5,026 ft.
Bahago & Bond Oil Corp. No. 1 J. L. West, sec. 607, Blk. D, J. H. Gibson Sur. Cellar and pits.
J. W. Murchison et al No. 1 Sawyer SE¼, sec. 702, Blk. D. S.D. 5,030 ft.
Ohio No. 1 Claywater, sec. 638, Blk. D, J.H. Gibson Sur. R.U.R.
Shell Pet. Corp. No. 1 Baumgart, J. H. Gibson Sur. Tstg. 5,000 ft.
Shell No. 1-C Baumgart, sec. 866, Blk. D, J. H. Gibson Sur. Cellar and pits.
Skelly and Sun Oil Co. No. 1 Kiser, sec. 640, Blk. D. P.B. 5,223 ft.
Texas Co. No. 1 Walker, sec. 794, Blk. D El. 3,656 ft.; T.D. 5,180 ft.; P.B. 5,162 ft.; R.U. pump.
Stogner & Pipkin No. 1 Blade, J. H. Gibson Sur. S.D. 5,266 ft.

E. C. TEXAS WILDCATS

Anderson County

Humble O. & R. Co. No. 1-C Southern Pine Lbr. Co. Drlg. 9,011 ft.
H. L. Parsons No. 1 H. B. Hemby, 7 mi NE of Navarro. Cg. 5,407 ft.

Angelina County

J. C. Bonham No. 1 Cameron Lbr. Co E. Miller Sur., 3 mi. SE of Zavalla. S.D.
C. E. Parrott No. 1 J. C. Burres, W. Plucker Sur., 2½ mi. W of Huntington. Drk.

Bowie County

Ferguson-Hill No. 1 Breckenridge. S.D. 2,950 ft.
King Oil Corp. No. 1 W. W. Ames, 800 ft. S and 1,650 ft. E of J. A. Tolbott Sur 4½ mi. NW of Texarkana. S.D. 200 ft.

Cherokee County

Merica Oil Co. No. 1 Cherokee Dev. Co. A. J. Acker Sur., 2 mi. E of Maydelle M.I.M.

Falls County

McCleod et al No. 1 F. Bolton, J. F Cockrill Sur., 4 mi. NW Rosebud. Fsg 1,708 ft.

Freestone County

C. E. Rossiter No. 1 J. P. Fulton in J. P Fulton Sur., 2½ mi. E of Donie. S.D. 956 ft.

Grayson County

Denver Prod. & Ref. Co. No. 1 E. B. Moore, E. Barnes Sur., ½ mi. NW of Whitesboro. Drlg. 200 ft.

Gregg County

Humble O. & R. Co. & Gulf O. Corp. No. 1 E. Robertson, M. Mann Sur., 2½ mi. SW of Longview Trinity test. El. 272 ft.; drlg. 7,635 ft.

Hill County

I. Willis No. 1 W. P. Ball, S. Marshall Sur., 3 mi. NW of Covington. M.I.M.

Lamar County

Cooper Bros. No. 2 L. B. Hayes, L. Roberts Sur. Loc.

Limestone County

C. L. Brown No. 27 N. B. Boyd, R. B Longbotham Sur., 3 mi. S of Wortham T.D. 1,402 ft.; oil sd.; S.D.W.O. 1,455 ft.
Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. P.B. from 8,-847 ft.
Stanolind O. & G. Co. No. 1 T. Norris, in Thresher Sur., 5 mi. N of Kosse; 6,500-ft. test; elev. 528 ft.; drlg. 7,249 ft.

Navarro County

Mrs. Jane Robinson No. 1 Fortson Bros., Eli Smith Sur., 5 mi. NE Corsicana. S.D. 1,940 ft.
T. Sharpe et al No. 1 E. B. McDowell, T Jordan Sur., 1¼ mi. S of Bassets S.D. 3,160 ft.

Trinity County

Bilinoski et al No. 1 Trinity State Bnk., B. F. Wright Sur., 2 mi. S of Trinity W.O.C. 120 ft.

Upshur County

Tom Hunter and American Liberty No. 1 J. P. Carter, J. H. Fields Sur. Drlg. 3,949 ft.
L. & G. Oil Co. No. 1 H. Williams, Roeder Sur., 2 mi. NW of Gracetown. Drlg. 3,752 ft.

NORTH TEXAS WILDCATS

Archer County

Thos. A. Jirik No. 1 D. L. Wolf, J. Poitevent A-348 Sur. Loc.

Baylor County

H. J. Baker No. 1 J. R. Martin, sec. 233 T.&N.O. Sur. S.D. 1,822 ft.

Clay County

Healdton O. & G. Co. No. 1 Wallace, Belcher Subd. Drlg. 3,040 ft.
Seitz, Comegys & Seitz No. 1 L. Wright, sec. 2632, T.E.&L. Sur. Set surf. csg. and W.O.C.

Cooke County

Byars & Nenny No. 1 W. A. Scroggins S. P. Yearwood Sur. A-1,554. Drlg. 2,-200 ft.

W. O. Russell No. 1 Bundy P. Cady. Sur. Testing S.S.O. 2,164-68 ft.
W. O. Russell No. 1 J. W. Sherrill, Wm. Phelps Sur. A-821. Drlg. 2,120 ft.
Whitfield, Pearson & Grimes No. 1 W. G. Dozier. R.U.R. and S.D.

Denton County

W. C. Curry et al No. 1 G. F. Owens, N. Rudder Sur. A-1,060. Show gas 1,235-50 ft.
Bruce Lee No. 1 Boyles, S. Ross Sur. A-112. S.D.O. 1,880 ft.
Wells-Dodson-Pearson No. 1 Hughes. B.B.B.&C. Sur. A-1252. S.D.O. 2,200 ft.

Foard County

O. P. Burnham No. 1 T. L. Ward, sec. 21, H.&T.C. Sur. S.D.O. 2,361 ft.
Texas Co. No. 14 Johnson, sec. 37, S.P R.R. Sur., Blk. L. Lime 3,760-80 ft.; tstg.

Jack County

Hanlon-Buchanan, Inc., No. 1 Ed M. Myers, N. F. Rudmose Sur. A-1,803. O.S. 3,830-40 ft.; shot with 40 qts.; C.O.; 2,800 ft. of oil in hole.
L. C. Harrison No. 1 L. S. Wright et al Z. S. Brooks Sur. A-64. S.S.O. 4,696-99 ft.; cg.
O. J. Perrin No. 1 J. S. Rhodes, J. W. Coates Sur. A-1,240. Drk.
Taubert & McKee No. 1 R. H. Eatherly, J. H. Henderson Sur. A-1,749. Spud. and S.D.
Van Eman & Richards No. 1 Whitsell Wm. McElroy Sur. A-559. Drlg. 1,700 ft.

Montague County

J. W. Sorrell et al No. 1 J. E. Walthall Sam H. Smith Sur. A-662. S.D.O. 2,500 ft.

Wichita County

Burk Royalty Co. No. 1 W. L. Hodges, Lot 8, H.T.&B. Sur. A-139. 6⅝-in. 3,-753 ft.; drlg. O.S. and S.L. 3,899-3,933 ft.; est. 500 bbls.; tstg.
Geier Bros., Inc., and F. B. Jackson, Jr., No. 1 C. F. Ancell, W.&M. Sur. A-1292. Drlg. 2,900 ft.
W. E. Hammon No. 1 Mrs. H. Lalk. Blk. 284, W.C.S. Sur. U.R. 10-in. csg.
King Oil Co. No. 1 J. L. and T. J. Waggoner, Blk. 8, M. A. Willis Sur. 6⅝-in. 3,761 ft.; O.S. 3,761-92 ft.; flwg. by heads.
Felix Payne No. 1 P. R. Pace, R. J. Scott Sur. A-253. Spud. & S.D.
Staley Oil Co. No. 1 First National Co Blk. 44, K.W.V.F.L. Sur. Shot L. and O.S. 3,817-77 ft.; C.O.; est. 500 bbls.
E. J. Stump No. 1 M. P. Bishop, L. Netherly Sur. A-240. S.D.O.; S.L. 3,885-3,997 ft.; T.D. 4,043 ft.
Clyde Texan Oil Fields Co. No. 1 A. W Burnside, John M. Sharp Sur. A-262 S.L. 3,935-76 ft.; C.O.; H.F.O.

Wilbarger County

Barry & Hayes No. 1 McGill, sec. 3, Blk 9, H.&T.C. Sur. S.D. 3,030 ft.
W. Little No. 1 A. P. Morris, sec. 3, H.T &C. Sur., Blk. 14. Drlg. 1,720 ft.
Phillips Pet. Co. No. 1 W. T. Waggoner "Barger," sec. 11, H.&T.C. Sur., Blk. 14. Standardizing.
W. W. Woolsey et al No. 1 Waggoner A, sec. 3, S.P.R.R. Sur. A-535. Drlg. 1,-735 ft.

Young County

Anzac Oil Corp. No. 1 E. S. Graham, A Hines Sur. A-135. Drlg. 2,930 ft.; tstg
C. E. Beavers et al No. 1 Cooper, sec. 81. 6⅝-in. 3,695 ft.; fsg. 3,775 ft.
C. B. Christie No. 1 R. Dozier, I. L. Hill Sur. A-126. 5⅛-in. 3,780 ft.; T.D. 3,890 ft.; P.B. to 3,800 ft.
Collier & Conner No. 1 H. M. Ford, W. T Carter Sur. A-62. S.D.O. 2,650 ft.
N. B. Crenshaw No. 1 J. C. Dwight, sec. 1,444, T.E.&L. Sur. S.D. 400 ft.
L. A. Long No. 1 F. A. Burnett, E. G. Rector Sur. No. A-239. R.U.C.T.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

C. R. Cox, Tr., No. 1 Jan Lee, sec. 11, B.B.B.&C. Sur., NE cor. county. S.D 240 ft
H. P. Evans No. 1 J. T. Hall, 2 mi. N of Bangs, 220 ft. from N line and 11,008 ft. from W line of SW¼ sec. 25, H.T. &B.R.R. Sur. Drlg. 425 ft.
Guyle Greynolds No. 4 A. Leatherwood, 5 mi. E of Cross Cut, 650 ft. from N line and 200 ft. from W line of E½ Blk. 11, Juan Dalgado Sur. Drlg. 1,-100 ft.
R. B. Irving et al No. 1 T. C. Giddings, 390 ft. from S line and 3,382 ft. from W line of J. J. Clelland Sur., 1 mi. E Thriftv. Correct owner was Irving & Prairie Oil Co.; 1,500-ft. test; spdg.
Lyon-Roush No. 1 W. D. Mullis, 12 mi. SW of Bangs, 1,170 ft. from N and E lines of A. D. Neil Sur., Subd. 33. Loc.; 1,000-ft. test.
R. M. Ragsdale et al No. 1 Cox & McGinnis, 10 mi. SE Cross Cut, 330 ft. from N & E lines of J. H. Rider Sur. A-1570. Loc. 2,500-ft. test.
S. B. Roberts No. 1 Angell, 9 mi. SE Cross Cut, B. H. Garvin Sur. Drlg. 2,350 ft.
Ungren & Frazier and Paul Pitzer No. 1 Cox & McInnis, sec. 88, I. S. Tabor Sur (map shows H.T.&B. Sur.). Drlg. 2,-430 ft.

Callahan County

Dudley Dev. Co. No. 1 Smith Hrs., 7 mi NW of Oplin, 1,080 ft. from S line and 620 ft. from W line of W½ of SW¼ sec. 4, S.P.R.R. Sur., Blk. 1. Loc.; 2,-200-ft. test.

R. F. Gilman et al No. 1 W. A. Young, 5 mi. NW Clyde, sec. 37, B.B.B.&C. Sur. Drlg. 1,675 ft.
Hal Hughes No. 1 Poindexter, sec. 350, Geo. Hancock Sur., 2 mi. NE of Oplin. T.D. 3,175 ft.; S.D.
J. C. Jackson et al No. 1 Thompson, 2 mi. S Eula, sec. 30, B.B.B.&C. Sur. Drlg. 1,510 ft.
S. B. Owens No. 1 H. Shanks, 6 mi. N of Oplin, 660 ft. from S and W lines of farm or 660 ft. from S line and approx. 2,800 ft. from E line of sec. 1, S.P.R.R. Sur., sec. 1, Blk. 1. Loc.
Phillips Pet. Co. No. 1 Cozart, 1 mi. NW Scranton, M. Cherry Sur. S.D. 2,600 ft.
R. F. St. John No. 1 A. E. Dyer, 4 mi. NW of Clyde, 1,385 ft. from E line and 1,323 ft. from S line of sec. 40, B.B.B. &C. Sur. Drlg. 1,450 ft.
Walker & Webb No. 1 Ross, 1 mi. NE Clyde, sec. 81, B.B.B.&C. Sur. Drlg. 1,700 ft.
Woodley Pet. Co. No. 1 Flores-Deep, 5 mi. SE of Baird, sec. 149, B.B.B.&C. Sur. Drlg. 4,050 ft.

Coleman County

J. F. Brock No. 1 J. H. Livingston, SE cor. SW¼ county, J. D. Waters Sur. No. 208. Drlg. 450 ft.
McDonald & Campbell & Cunningham No. 1 R. M. Lowe, SE of NE¼ county, 1,-200 ft. from N line and 450 ft. from W line of J. C. Hunter Sur. M.I.M.; 1,350 ft. test; drlg. 765 ft.

Comanche County

N. D. Gallagher et al No. 1 Mrs. B. I Terry, Desdemona pool, N. H. Kuykendall Sur. Rng. 7-in.
Dobbs Oil Co. No. 1 Hodges, sec. 11, Blk. 2, H.&T.C. Sur. S.D. 2,300 ft.

Eastland County

G. D. Chastain et al No. 1 Weddington, 4 mi. N. Cisco, sec. 496, S.P.R.R. Sur L. 3,315-30 ft.; est. 40 bbls.; drlg. 3,-400 ft.
Hickok Prod. & Dev. Co. No. 1 J. E. Donovan, 5 mi. NW of Cisco, 660 ft. from N and E lines of NW¼ sec. 489, S.P. R.R. Sur. Drlg. 1,700 ft.
J. D. Kittrell No. 1 Reynolds, 5 mi. E of Carbon, sec. 23, H.&T.C. Sur., Blk. 1, S.D. 1,000 ft.
Lone Star Gas Co. No. 1 M. Thomas, 5 mi. NW of Cisco, 668 ft. from N line and 660 ft. from E line of SE¼ sec. 478, S.P.R.R. Sur. Drlg. 300 ft.
Monark O. & G. Co. No. 1 Downtain, sec. 14 H.&T.C. Sur. Blk. 4, 3 mi. N Eastland. Drlg. 2,175 ft.
J. R. Nichols et al No. 1 R. W. Murray Hrs., 3½ mi. SE of Carbon, 330 ft. from N and W lines of SW¼ sec. 4, H.&T.C. Sur., Blk. 2. Loc. 2,100 ft.

Erath County

Arnold Oil Co. No. 1 McMillan, 2 mi. SE of Desdemona, T. H. Dixon Sur., Abst. 1,103. S.D. 3,085 ft.
J. Hickey et al No. 1 Smith, 5 mi. SE Desdemona, J. B. Smith Sur. Shot with 165 qts. 2,906-3,065 ft. in sd.; S.D.

Jones County

Bells Wells Oil Co. No. 1 R. L. Pond, 4½ mi. NE Avoca, 330 ft. from S and W lines of NE¼ sec. 165, B.B.B.&C. Sur. Loc.
E. P. Campbell et al No. 1 L. H. Lee, 5 mi. S Hawley, sec. 16, T.&P. Sur., Blk. 16. Drlg. 2,275 ft.
Fain & McGaha Oil Corp. No. 1 Mrs. L. E. Williams, 3½ mi. SW Nugent, 220 ft. from S & W lines of NE¼ of Sec. 37 T.&P. Sur., Blk. 15. Sdy. L. 1,935-55 ft.; shot with 40 qts.; S.D.

PANHANDLE COMPLETIONS

Week ended January 1

Briscoe County

Bradford & Tedy No. 1 Travelers Insurance Co., temporarily abandoned, 250 feet.

Carson County

Danciger Oil & Refining Co. No. 6 Moore, 2,984-3,557 feet, 191 bbls. per day. Great West Oil Co. No. 2 Block, 3,003-3,159 feet, 237 bbls. per day. Hagy and others No. 1 McConnell, 13,000,000 feet of gas, total depth 2,683 feet. Panhandle Eastern Pipe Line Co. No. 1-3 Sanford, 42,000,000 feet of gas, total depth 2,710 feet. Stanolind Oil & Gas Co. No. 8 Cooper, 3,069-3,170 feet, 301 bbls. per day.

Gray County

Cities Service Oil Co. No. 13 Cunningham, 3,226-96 feet, 399 bbls. per day. Humble Oil & Refining Co. No. 5 Haggard, 3,130-3,250 feet, 633 bbls. per day. Magnolia Petroleum Co. No. 19 Merten, 3,140-3,294 feet, 211 bbls. per day. Saulsbury Oil Co. No. 1 Yoder, I.&G.N. Survey, dry and abandoned, total depth 3,323 feet.

Hutchinson County

Alma Oil Co. No. 1 Whittenburg, 2,650-2,705 feet, 544 bbls. per day.

PERSONAL

GENE TUNNEY, former heavyweight champion, is entering the field of wildcat operations with a test on the Shirley dome structure near Rawlins, Wyo.

STEPHEN M. BIRCH has been appointed advertising manager of the Texas Company, succeeding RAYMOND BROWN, who resigned. Mr. Birch was account executive with Erwin, Wasey & Company, Inc., New York, 12 years, and before that was with the Fairchild Publications.

H. D. HUMPSTONE, manager of the Standard Oil Company of New Jersey's subsidiary in Chile, the West India Oil Company, left New York December 31 to return to his duties in South America. Mr. Humpstone was formerly vice president of the Standard Oil Company of Brazil.

GEORGE A. HILL, Jr., Houston, Tex., president of the Houston Oil Company, and MRS. HILL went to Mexico City, Mexico, for the midwinter holiday season.

H. M. RUGG, automotive engineer for the Pennsylvania Grade Crude Oil Association, addressed a recent meeting of the Farmers' Union Exchange, Inc., in St. Paul, Minn.

JOHN R. SUMAN, of Houston, Tex., vice president in charge of drilling and production for the Humble Oil & Refining Company, will address the annual banquet of the Midland (Texas) Chamber of Commerce on January 21 in the Hotel Scharbauer.

FRANK SEELY, formerly general superintendent of the Royal Oil & Gas Company in the Texas Panhandle district, with headquarters at Pampa, has been promoted and transferred to Tulsa, Okla., to take charge of the company's operations in Texas, Oklahoma, Louisiana, Kansas and Arkansas.

H. K. BEARDMORE, who had been appointed temporary trustee for the Allison-Fitzwilliam Petroleum Corporation, of Wichita, Kans., was made permanent trustee by federal district court action in Topeka, Kans., last week. C. M. FITZWILLIAM, of the company, said the trusteeship was requested for the purpose of liquidating the concern.

W. H. GEIS is chairman of a joint committee representing four California producer organizations which will work for retention of percentage depletion on both a local and national scale. The other members of the committee are DANA HOGAN, L. M. BENEDICT, F. E. FOSTER and RUSH M. BLODGETT. The committee has held its organization meeting and will proceed with its duties.

GOVERNOR E. W. MARLAND, of Oklahoma, busy with preparations for his oil-price stabilization conference in Hot Springs, Ark., January 24, declares the present drilled oil production will not meet demand more than two years. "All the oil produced in the country to date is not equal to what will be necessary in the next 20 years."

MORRIS CANNAN, San Antonio, Tex., geologist, and MISS MARGUERITE I. LEGAN, Houston, Tex., recently married in the latter city, will reside in San Antonio, following a wedding trip. Both are graduates of the University of Texas. MRS. CANNAN, who received her degree of bachelor of science in geology last June, was president of Chi Upsilon, honorary geological sorority. Mr. Cannan received the same degree in 1936 and his master's degree last June.

A. H. CULVER, Houston, Tex., chief of the division of lands and leases for the Texas Company, has retired from active service after 22 years with the company. He was honored with a dinner given by the producing department, and presented with a watch by his associates. R. OGARRIO, vice president, made the presentation speech.

J. R. PEMBERTON, California oil umpire and an ornithologist of note, accompanied by his family and W. H. BURT, University of Michigan mammalogist; G. W. WILLETT, curator of the Los Angeles County Museum; S. A. GLASSELL, of the San Diego Zoological Society, and E. N. HARRISON, an expert in the making of motion pictures of animal life, will leave Los Angeles in Mr. Pemberton's diesel-powered schooner early in January for a cruise down the west coast of Mexico and into Central America. During his absence the duties of umpire will be performed by LAWRENCE VANDER LECK, chairman of the Central Committee of California Oil Producers.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Pennsylvania Grade oil opened the year 1913 at $2 per barrel, or 70 cents higher than at the first of 1912. Kansas-Oklahoma crude opened at 80 cents, a 30-cent advance in the course of the year. North Texas crude opened at 85 cents and most of the Gulf Coastal crudes at 75 cents. California crudes ranged from 35 cents to $1 per barrel as the year began.

A total of 1,255 wells were completed in 1912 in Illinois.

British companies own about 75 per cent of Mexican oil production according to M. A. Spellacy, American operator in that field.

Continental Oil Company is the highest priced stock in the Standard Oil group. It is quoted at 1750 bid and 1850 asked. Par is 100. It is a Rocky Mountain marketing company.

20 YEARS AGO

The eight-hour day has been established in the California oil fields. It does not include commissary clerks, office help or casual workers.

The U. S. Government is preparing to take control of the petroleum supply under the fuel administration, as a war measure. The man selected to take charge has not yet been named.

Gulf Refining Company posted a 20 per cent increase in wages at its Port Arthur, Tex., plant effective January 1.

Texas and Louisiana together produce 130,000 barrels of oil per day of which 74,000 barrels is heavy fuel oil produced in the Gulf Coastal fields. Kansas and Oklahoma are producing 362,327 barrels per day.

10 YEARS AGO

Twenty representative petroleum stocks on the New York Stock Exchange average 63.55 per share in the past week. The trend has been upward for several months.

Judge Hampden Story, 75, general counsel for the Texas Company in Louisiana and Arkansas, dies in Shreveport.

E. E. FOGELSON, independent oil man, has returned to Houston, Tex., his home, following a trip which took him to the Pacific Coast and Honolulu.

JOSEPH E. MORERO, head of the Skelly Oil Company's geological department in Tulsa, is back from the Dominican Republic, where he went five weeks ago to inspect an oil concession of 500,000 acres.

FRED SMITH, superintendent for the Ohio Oil Company, in Bakersfield, Calif., and CLAYTON STEPHENS, petroleum engineer for the same company, have returned to Bakersfield from Glenn County, where they inspected the company's No. 1 Willard, California's most northerly wildcat.

J. E. ADRIAN, manager of the state motor fuel tax division in South Dakota, has attracted attention by his report to the state treasurer, which shows that gasoline "bootleggers" failed to a great extent in efforts to evade payment of taxes. Between April 1, 1933, and June 30, 1937, they paid $22,217.

FRANK S. HENLINE has been appointed executive secretary of the Nebraska Petroleum Marketers, Inc. The office had been vacant two years, the work having been performed by officers and directors. Mr. Henline, formerly secretary of the retailers association in Lincoln, Neb., was appointed for two years.

C. E. STURDEVANT, of the Phillips Petroleum Company, Pampa, Tex., has been appointed general chairman of a committee which will sponsor the 1938 spring meeting of the Mid-Continent district of the American Petroleum Institute's Division of Production. Appointed to aid Mr. Sturdevant are R. C. KAY and C. A. DANIELS.

PARAGRAPHS

SIDNEY L. HAROLD, of Shreveport, La., chairman of a committee drawing up a code of laws for the mineral industry of the state of Louisiana, presided at a hearing in Alexandria, La., last week. His associates on the committee include ARTHUR PROVOST, New Iberia; LEANDER H. PEREZ, New Orleans; W. G. RANKIN, conservation commissioner, New Orleans, and WILLIAM C. FEAZEL, Monroe.

T. H. ANDREWS, division engineer for the Stanolind Oil & Gas Company in its Gulf Coast division in Houston, Tex., has been advanced to district superintendent, succeeding GILBERT PRINCE, who resigned. CHARLES F. BEDFORD, petroleum engineer at Houston, was made division engineer in Mr. Andrews' place. T. W. HERRIN, field superintendent at High Island, was transferred to Lake Charles, La., as district superintendent. E. D. MASKE, field superintendent at Barbers Hill, was advanced to Mr. Herrin's place, and Mr. Maske was succeeded by L. L. CHISHOLM, formerly in the East Texas district.

R. B. MOORE, Bolivar, N. Y., oil producer, and MRS. MOORE, have returned after a vacation in Bermuda.

E. T. OAKES, independent operator and co-discoverer of the Lisbon field in North Louisiana, has opened offices in the First National Bank Building, Shreveport, La.

WILMER R. SCHUH, president of the National Association of Petroleum Marketers, says he expects 1938 to be the most favorable year for gasoline dealers they ever have had.

GEORGE H. ECHOLS, drilling contractor and independent producer of Houston, Tex., attended the Rose Bowl game New Year's Day at Pasadena, Calif., accompanied by a party of friends. All made the trip in Mr. Echols' airplane.

WALTER C. TEAGLE, chairman of the board of the Standard Oil Company of New Jersey, is among leading business men who have joined the Seventh International Management Congress, which will meet in Washington, D. C., next September. The congress is designed to provide a forum for interchanging world experience in all phases of management.

SEWELL L. AVERY, Chicago, was elected a director of the Pure Oil Company at a recent meeting of the board. Mr. Avery is president of Montgomery Ward & Company and the United States Gypsum Company. He is a director of the United States Steel Corporation, Chicago Great Western Railroad, Chicago Daily News, Armour & Company, Northern Trust Company, Peoples Gas, Light & Coke Company, Nash Motors Company, Container Corporation of America, and Pullman Company.

REESE H. TAYLOR, president of the Consolidated Steel Corporation, has been elected a director of the Union Oil Company of California.

MARVIN C. ROGERS, formerly chemical engineer in the research laboratory of the Standard Oil Company of Indiana in Whiting, has been appointed assistant professor of chemical engineering in the University of Minnesota. Doctor Rogers is a graduate of the Universities of Minnesota and Michigan, and has been visiting lecturer in chemical engineering at the Armour Institute of Technology this year. He has been active in technical society affairs in Chicago, serving as secretary of the Chicago section of the American Institute of Chemical Engineers and as director of the Chicago section of the American Chemical Society.

ROBERT S. ELLISON, president of the Stanolind Crude Oil Purchasing Company and the Stanolind Pipe Line Company, was chosen first vice president of the Tulsa Chamber of Commerce last week. L. F. McCOLLUM, vice president of the Carter Oil Company, was elected a director.

JUDGE J. A. ELKINS was made a director of the Texas Gulf Producing Company last week, and at the same time N. W. HUNTER retired as chairman and member of the board. Judge Elkins is president of the City National Bank, of Houston, Tex., and a member of the law firm of Vinson, Elkins, Weems & Francis, in that city. HENRY M. BROWN resigned as treasurer of Texas Gulf, and DOYLE SMITH, formerly assistant treasurer, was elected to succeed him.

Made Good Use of Job

Chance dropped Wilbur F. Burt, chairman of the Socony-Vacuum Oil Company, Inc., manufacturing committee, into the oil industry; but he made good use of his first refinery job and it wasn't chance that carried him to his present post. His school-days over, back in 1912, young Burt was looking around for something to do, but there were not as many beckoning hands as a boy fresh from his books is inclined to expect. At this juncture H. L. Pratt, a personal friend and at that time an executive of the Standard Oil Company of New York, suggested that he take a job in one of the company's plants. He accepted. He liked the work, and soon was on his way up, rising steadily through the ranks to the head of an important division of one of the world's largest oil companies. Mr. Burt was made chairman of the Socony-Vacuum manufacturing committee two years ago. From 1912 to 1925 he held various refinery positions, all with Standard Oil Company of New York, the last being superintendent of the Pratt works, in Brooklyn, N. Y. For the next two years, from 1925 to 1927, he was manager of the Socony Paint Products Company, and at the end of that period he was transferred to the Socony-Vacuum manufacturing department at 26 Broadway, New York. Mr. Burt married Evelyn Mildred Peck in New York in 1920, and they have two children. His friends say he shoots a good game of golf.

Blank & Stoller

WILBUR F. BURT

JOHN C. CALHOUN, JR., formerly with the Shell Petroleum Corporation in Tulsa, has joined the water-flood research staff at Pennsylvania State College.

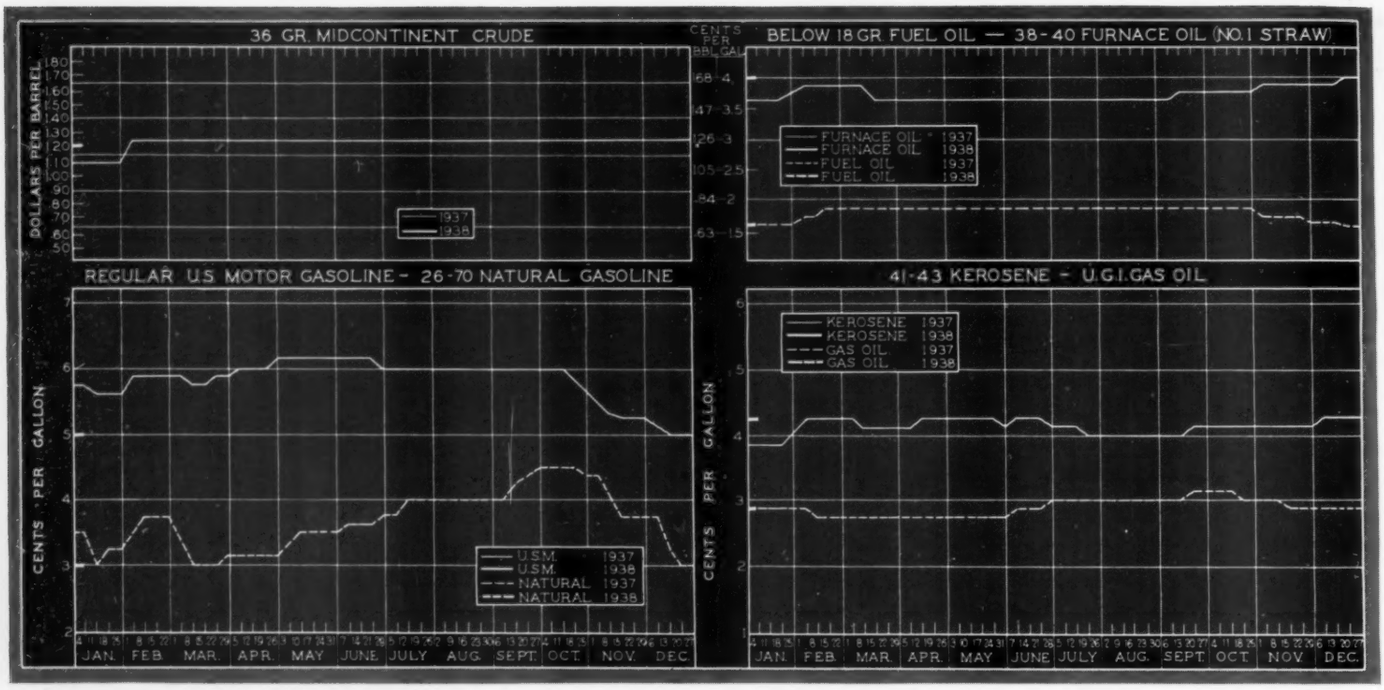
DR. J. A. L. HENDERSON, consulting engineer of New Brunswick Gas & Oilfields, Ltd., has returned to London, England, following a trip to Canada, where he visited the company's properties.

WALTER BUAAS, president of the Taft Well Drilling Company, flew from Houston, Tex., to Bakersfield, Calif., to spend Christmas and New Year's with his family in the latter city.

H. K. HIATT, Beardstown, Ill., president of the Illinois Association of Petroleum Retailers, announces that the first annual convention of the organization will be held in Quincy, probably the second week of July, 1938.

JOHN H. KANE, retiring executive vice president and general counsel of Phillips Petroleum Company, Bartlesville, Okla., was honored last Friday night at a dinner in the Hillcrest Country Club, Bartlesville, given by members of the legal department of the company and their wives. More than 100 persons attended.

FLOYD A. CALVERT, counsel in Saginaw, Mich., for the Pure Oil Company, was reelected president of the Oil and Gas Association of Michigan. Other officers, all reelected, are: Vice president, C. L. MAGUIRE, Mount Pleasant; secretary, HASWELL GRANT, Mount Pleasant; executive secretary, ARNOLD J. WEIDEMAN, Mount Pleasant; treasurer, GEORGE B. TALBOT, Saginaw; co-treasurer, W. P. CLARKE, Saginaw.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Apathy Hits Group 3 Refinery Market But Light Burning Oils Still Firm

By T. F. SMILEY

Apathy pervaded the Group 3 market in refined-oil products this week. Even the light fuels, whose lusty vigor had relieved an otherwise dreary picture, were showing signs of fatigue. The usual year-end business, which takes material out of inventories and keeps it in transit several days, imparted a faint show of life in some divisions of the market, but it didn't mean anything.

A moderate swelling in jobber buying of gasoline was reported. Some of it doubtless is prompted by the belief that this product at the present level of prices presents an attractive investment for jobbers who have storage facilities and financial resources that enable them to take advantage of it. Much of the purchasing is simply to replenish depleted stocks. Observers see reason for a little encouragement in all this buying, for it seems to indicate that jobbers are persuaded prices at last have reached bottom.

Dim Prospect of Better Prices

Nobody saw immediate prospect of the higher gasoline quotations grievously needed by refiners. Small operators with limited storage and meager capital are particularly hard hit by the prevailing low prices, which do not cover cost of manufacture. They cannot continue indefinitely running at a loss, and they cannot close their plants without abrogating agreements entered into for crude supplies. Their predicament is acute. Many plants in the Mid-Continent are down, and it is asserted more will follow. Some which have suspended do not belong in the "small" classification. In the East Texas area, where 100 refineries once ran at the top of their capacity, eight were reported operating this week.

Refined Oil Market Barometer

Year-end dullness marks almost all divisions. Slight upturn in jobber buying of gasoline affording encouragement. Domestic heating oils continue vigorous, notwithstanding mild temperatures, and stocks are being reduced at about the same rate as that at which gasoline stocks are rising. Slowing up of industrial operations keeps heavy fuels inactive. Lubricants remain lifeless.

MID-CONTINENT. Light fuels vigorous. Gasoline slightly steadier. Lubricants dull.

EAST COAST. Kerosene offerings rise, but demand fairly steady. Gasoline unchanged.

GULF COAST. Gasoline somewhat brighter. Kerosene and burning oils stronger.

CALIFORNIA. General market dull, with no changes in prices.

PENNSYLVANIA. Kerosene and fuel oils firm. Gasoline reflects rising stocks.

CHICAGO. Heating oils strong. Gasoline inactive. Heavy fuels slow.

Although talk about the possibility of a cut in the price of Mid-Continent crude has subsided, there is a feeling of uncertainty on that point, and until all likelihood of a reduction is pretty definitely removed no advance in the tankcar price of gasoline is to be expected. In the meantime refiners are keeping a disheartened eye on the nation's mounting stocks of gasoline.

Light burning oils were strong, but mild temperatures throughout wide areas had taken the keen edge off demand. A quick snapback would accompany a real cold wave, it was declared. Even if there should be an open winter, an excellent market for light fuels is assured, according to informed observers, who add that severe weather might easily create serious scarcity. One broker said he was able to get prime white at an eighth below the price he paid a week earlier, but sales managers and buyers generally testified they found no willingness to grant concessions anywhere in the list of furnace oils. No. 2 straw was probably the strongest item, with No. 1 prime white and No. 1 straw close seconds. There appeared to be little actual difference in the going prices of No. 1 prime white, No. 1 straw, No. 1 range oil, 41-43 kerosene and 40-42 tractor fuel.

Agricultural demand for kerosene and the light-gravity heating oils was reported brisk. Increased inquiry for kerosene was ascribed in part to the scarcity of range oil and furnace oils.

Buying Low-Pressure Naturals

Heavy shipments of low-pressure natural gasoline were reported, and jobber demand for the 12- and 14-pound grades continued to be the feature of this division of the market. Manufacturers said little or no material was going to storage, as the low level of prices, unchanged from last week, was attracting enough business from both refiners and jobbers to absorb current output. Large quantities of the stabilized grades were going into competition with the refinery product.

Heavy industrial fuel continued lifeless, with little near-term prospect of improvement. U.G.I. gas oil was dull, with quotations running about as they have been. Lubricants were slow, with price-cutting reported in some areas.

Uneasiness Over Crude Prices Affects Refinery Market on Atlantic Coast

By H. STANLEY NORMAN

NEW YORK, Jan. 3.—Uncertainties existing over the crude oil price structure exerted an increasing influence in petroleum markets throughout this section during the last week of the old year and the first few days of 1938. There is evidence that both domestic and export buyers have been waiting to see which way the balance might swing before replacing depleted stocks.

There has been a slight reaction in Gulf Coast cargo quotations to the domestic trade for coastwise movement of No. 2 fuel oil, but the price of 4½ cents per gallon for the material is well maintained and several suppliers are clinging to the high of the present movement of 4⅝ cents per gallon. No sales or offers of sales of No. 2 fuel oil in quantities on the Gulf Coast have been reported below 4½ cents per gallon, although several suppliers are making deliveries to contract customers at lower figures.

The present stability of tankcar and tank-wagon fuel oil prices prevailing in this vicinity is evidence that even slight drops in temperature, if sustained for a reasonable period, probably would precipitate advances. Tankcar market of 5¼ cents per gallon for No. 2 fuel is well established here and only scattered, incidental sales in the tank-wagon market are made below 7½ cents per gallon. There is the one-truck type of tank-wagon fuel oil dealer operating in practically all centers of population.

First danger signals for the winter kerosene market to appear were run up last week, not in the form of price recession, but in the form of more material offered to the open trade. The kerosene market has been among the exceptionally strong features of the early winter market in this vicinity with prices ranging from 6⅛ cents for barge delivery up to 6.3 cents per gallon in tankcars. Most of the current tankcar business is being done at 6¼ cents. Demand is holding steady, but considerable material was moved during the past few weeks from the Gulf Coast to north Atlantic ports resulting in an easier market. Gulf Coast kerosene markets remained unchanged ranging from 5 cents per gallon for 41-43 p.w. to 5⅛ cents for 41-43 w.w. and up to 5½ cents for 44 w.w. material.

Resumption of normal operations 10 days ago by the Shell refinery at Houston after a shutdown of six weeks may alter conditions to some extent in the Gulf Coast market. During the shutdown the company was forced into the open market for some of its supplies, which will now be available from its own plant. At the same time, resumption of full operations may ease the anxiety to some extent in the crude oil situation.

There were no changes of importance in the north Atlantic gasoline market. No changes have been reported since the Socony-Vacuum lowered New York quotations a half cent. In lowering its unleaded gasoline tankcar quotations, Socony-Vacuum was meeting prevailing prices at the docks of many substantial distributors. The prevailing price in New York territory for 65 octane, unleaded gasoline is now 7 cents per gallon and most dealers are standing on that basis for the moment. Retail conditions in this immediate area were unchanged, but northern New Jersey is unsettled as is the Bridgeport, Conn., district where eight gallons of unleaded gasoline can be had for $1 including taxes.

Lubricating oils were virtually unchanged. No. 8 bright stock cylinder oil is unchanged at 15 cents for 25 pour test. The 600 steam refined cylinder stock and neutrals were also unchanged from the preceding week's quotations. Heavy fuel oil remains weak in this territory and on the Gulf Coast. There has been no break in quotations of $1.25 per barrel in the North Atlantic Seacoast district, but shore plant sales are sharply down from summer and early winter season levels due to inactivity of manufacturers. Bunker C fuel oil at Gulf Coast points of supply are 85 cents per barrel.

Unless industrial consumption of heavy fuel oil picks up soon, there is fear in this area that the present price level may crack. Inactivity of steel mills has been an important factor in easing heavy fuel oil. Low operating schedules of steel plants is resulting in reduced freight car loadings and the combination has cut deeply into the industrial consumption rate of heavy fuel oil. Even the greater use for building heating purposes and the extra-season demand from steamship lines is not sufficient to offset the industrial consumption slump. Tank-wagon prices for No. 6 fuel oil in this vicinity is quoted from 3⅝ to 3¾ cents per gallon with some asking 3⅞ cents.

Diesel oil is firm at previous price of $2.20 per barrel in New York harbor. Reasonably mild winter weather prevailing so far this year coupled with numerous sailing schedules over the Christmas and New Year holiday season are factors in keeping the diesel market on a firm basis.

Tanker rates from the Gulf Coast to north of Cape Hatteras are again showing a tendency to move forward after touching bottom in November. Boats have been reported scarce and owners are asking higher prices. The last fixture reported from the Gulf Coast for movement of a cargo of gasoline to New York was 35 cents per barrel, but it is said that the asking price has been moved up another cent or two. Tankers for movement of light fuel oil are reported available for 30 cents per barrel, but the trend in this class of business is also upward. If tanker rates continue to advance, as most observers expect them to do for the fuel oil traffic during the next two or three months, replacement stocks may cost distributors practically the present prices even though crude and loaded product prices do point downward.

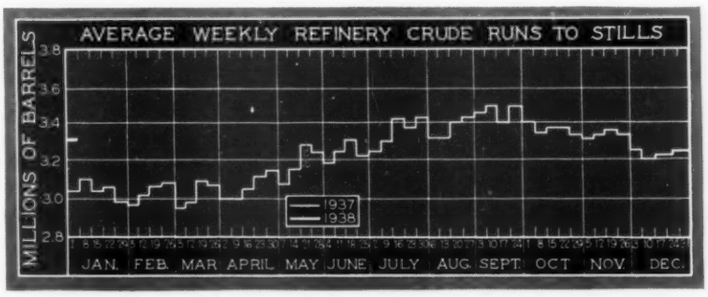
Wax prices remain unchanged and trading both for domestic and export accounts continues dull. Crude scale wax of 124-126 a.m.p. specification is available in the New York market at 2.8 to 2.9 cents per pound.

A. P. I. Weekly Refinery Statistics

Week Ending January 1, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	577,000	18,228,000	12,339,000
Appalachian	88.4	107,000	3,058,000	1,145,000
Indiana, Illinois, Kentucky	92.4	414,000	12,236,000	6,815,000
Oklahoma, Kansas, Missouri	84.7	248,000	6,960,000	3,724,000
Inland Texas	56.6	125,000	2,434,000	1,793,000
Texas Gulf	95.7	742,000	11,157,000	10,925,000
Louisiana Gulf	96.6	145,000	2,364,000	3,439,000
North Louisiana and Arkansas	63.7	48,000	427,000	499,000
Rocky Mountains	69.7	29,000	1,691,000	617,000
California	90.9	550,000	14,376,000	74,574,000
Total reported	89.0	2,985,000	72,931,000	115,870,000
Estimated unreported	.....	335,000	4,360,000	2,790,000
*Estimated total	.....	3,320,000	77,291,000	118,660,000
*Estimated total previous week	.....	3,245,000	74,437,000	118,659,000
*January 2, 1937	.....	3,030,000	62,661,000	106,330,000

*Bureau of Mines, currently estimated.



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending December 18, 1937	303,041,000 barrels
Week ending December 11, 1937	303,163,000 barrels
Week ending December 19, 1936	288,428,000 barrels

Keller Joins N.P.A.

Joseph E. Keller, of Dayton, Ohio, and Washington, D. C., has joined the staff of the National Petroleum Association. Mr. Keller was educated at Dayton University and its law school. During that period he had several years of newspaper work and later became a member of the faculty of the law school. For the past four years he has been on the staff of the Communications Commission in Washington where he has made a wide circle of friends in official life. In announcing his new connection, Fayette B. Dow, general counsel of the association, predicts for him a successful career in trade association work for the oil industry.

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 4, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline—Tank wag.	Gasoline—Dlr.	Gasoline—Inc. tax	Kero. tank wag.
Chicago, Ill.	15 3	13 3	4 0	10 2
Decatur	15 3	13 8	4 0	10 2
Joliet	15 3	13 8	4 0	10 2
Peoria	15 3	13 8	4 0	10 2
Quincy	15 1	13 6	4 0	10 0
Davenport, Ia.	15 3	13 8	4 0	‡13 2
Des Moines	15 1	13 6	4 0	‡13 0
Mason City	15 4	13 9	4 0	‡13 3
Sioux City	15 3	13 8	4 0	‡13 2
Duluth, Minn.	17 0	15 5	5 0	10 9
Mankato	16 7	15 2	5 0	9 5
Minneapolis	16 7	15 2	5 0	10 6
Lacrosse, Wis	16 7	15 2	5 0	10 6
Green Bay	17 0	15 5	5 0	10 9
Milwaukee	16 5	15 0	5 0	10 4
Detroit, Mich.	15 1	13 6	4 0	9 8
Grand Rapids	16 3	14 8	4 0	11 0
Saginaw	16 1	14 6	4 0	9 1
Evansville, Ind.	16 8	15 3	5 0	†10 7
Indianapolis	16 9	15 4	5 0	†10 8
South Bend	17 2	15 7	5 0	†10 2
Fargo, N. Dak.	16 7	15 2	4 0	11 6
Minot	17 9	16 4	4 0	12 8
Huron, S. Dak.	17 1	15 6	5 0	11 0
Kans. City, Mo.*	14 6	13 1	4 0	8 5
St. Louis*	14 9	13 4	4 0	9 8
St. Joseph	14 6	12 4	4 0	9 0
Wichita, Kans.	14 1	12 4	4 0	8 5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Iowa kerosene prices include 3-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 9.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline—Tank wag. dlr.	Gasoline—Tank car con'r.	Gasoline—Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	12.75	11.25	4.0	9.0
Newark	12.75	11.25	4.0	9.0
Annapolis, Md.	14 85	13 35	5 0	9 5
Baltimore	14.25	12.75	5 0	9.0
Cumberland	16 65	14.15	5 0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	17.45	14.95	6.0	12.9
Norfolk	16 25	13.75	6.0	11.5
Petersburg	16.55	14.05	6.0	11.7
Richmond	16.55	14.05	6.0	11.7
Roanoke	17.75	15.25	6.0	12.9
Charles'n, W. Y.	17.05	14 55	6.0	12.6
Parkersburg	16.35	13.85	6.0	11.2
Wheeling	16 25	14 85	6 0	12 2
Charlotte, N. C.	18.65	16.15	7.0	12.6
Hickory	19.15	16.65	7.0	13.0
Mt. Airy	18.95	16.45	7.0	12.8
Raleigh	18.25	15.75	7.0	12.1
Salisbury	18.75	16.25	7.0	12.7
Charleston, S. C.	17.25	14.75	7.0	11.1
Columbia	18 25	15.75	7.0	12.1
Spartanburg	18 95	16.45	7.0	12.9

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5-cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline—Tank wag.	Gasoline—Net dlr.	Gasoline—Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	18 0	7.0*	†12.0
Augusta	21.0	18 0	7.0	*14.0
Macon	21 0	18 0	7 0	*14.5
Savannah	19 0	16 0	7 0	*12.0
Birm'ham, Ala.	22.0	19.0	9.0	12.0
Mobile	22 0	19 0	9 0	11 0
Montgomery	22.0	19.0	9.0	†13.0
Jackson, Miss.	20 0	17.0	7 0	*13.0
Vicksburg	20 0	17 0	7 0	*13.0
Jacksonville, Fla.	22.0	17.0	8.0	†10.0
Miami	20 5	17.5	8 0	†12.5
Pensacola	22 0	19 0	9 0	12.0
Tampa	20 0	17.0	8.0	10.5
Lexington, Ky.	19.5	16.5	6.0	11.0
Covington	18 5	15 5	6.0	11.0
Louisville	19.0	16.0	6.0	10.5
Paducah	19.5	16.5	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline—Dealer	Gasoline—Inc. tax	Kero. tank wag.
Denver, Colo.	15 0	5 0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16 0	5 0	10 5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	16 0	5.0	13.0
Butte, Mont.	19.5	6.0	15.5
Billings	19.5	6.0	15.5
Helena	19.5	6.0	15.5
Great Falls	19.5	6.0	15.5
Salt Lake City, Utah	19.5	5.0	16.0
Twin Falls, Ida.	21.0	6.0	18 0
Boise	21 5	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

*Includes city tax of one-half cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline—Tank wag. con'r.	Gasoline—Di-vided dlr. tax	Gasoline—Inc. tax	Kero. tank wag.
Ohio points	16.0	15.00	5.0	*13.5

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline—Tank wag. dlr.	Gasoline—Tank car con'r.	Gasoline—Inc. tax	Kero. tank wag.
Albany, N. Y.	14.5	12.5	5.0	9.0
*Met. N. Y.:				
Manh't'n, Br'nx	14.5	12.5	5.0	9.0
Staten Island	14.5	12.5	5.0	9.0
Q'ns. & Brklyn	14.5	12.5	5.0	9 0
Buffalo	15 05	13.04	5.0	7.5
Rochester	15 0	13.17	5.0	8 5
Syracuse	14 5	13.12	5.0	9.5
Boston, Mass.	13 00	11.5	4.0	8 5
Portland, Me.	14 8	12.5	5.0	8 75
Manch'ter, N. H.	15 8	13 0	5.0	9.5
Burlington, Vt.	15.4	12.9	5.0	9.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline—Tank wag.	Gasoline—Serv. sta.	Gasoline—Inc. tax	Kero. tank wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18 5	19.5	4.0	12.5
Phoenix, Ariz.	21.0	22.0	6.0	‡17.0
Reno, Nev.	20 0	21.0	5 0	13.0
Portland, Ore.	20 0	21.0	6 0	13.5
Seattle, Wash.	20 0	21 0	6 0	13.5
Spokane	22.5	23.5	6 0	16.0
Tacoma	20 0	21.0	6 0	13.5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline—Tank wag.	Gasoline—Dlr.	Gasoline—Inc. tax	Kero. tank wag.
Omaha	17 7	16 2	6 0	10.5
McCook	18 4	16 9	6.0	11 2
Norfolk	18 1	16 6	6 0	10.9
North Platte	18 5	17 0	6 0	11.3
Scotts Bluff	19 2	16 0	6.0	12.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline—Tank wag. dlr.	Gasoline—Tank con'r.	Gasoline—Inc. tax	Kero. tank wag.
N. Orleans, La.	19 75	17 25	*10 0	†12.0
Baton Rouge	17.75	15.25	8.0	12.0
Alexandria	18 25	15 75	8 0	12.5
Lafayette	18.75	16.25	8.0	13.0
Lake Charles	18.75	16.25	8.0	12.5
Shreveport	17.25	14.75	8.0	9.5
Kn'xv'le, Tenn.	20.75	18.25	8.0	14.0
Memphis	18.75	16.25	8.0	12.0
Chattanooga	20.25	17.75	8.0	13.5
Nashville	19.75	17.25	8.0	11.5
Bristol	19.50	18.25	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline—Tank wag. dlr.	Gasoline—Tank car con'r.	Gasoline—Inc. tax	Kero. tank wag.
Philadelphia, Pa.	13 25	12 25	5.0	10 5
Pittsburgh	15 0	13.0	5.0	11.0
Allentown	14.25	12.75	5.0	11.0
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13 0	5.0	11.0
Altoona	15 0	13 0	5.0	11.0
Dover, Del.	14 5	....	5.0	11.0
Wilmington	14 0	....	5.0	11.0
Springf'd, Mass.	13.5	....	4.0	8.5
Worcester	14.3	....	4.0	9.0
Hartford, Conn.	13 6	....	4.0	8.5
New Haven	13.5	....	4.0	8.0
Providence, R. I.	13 3	....	4.0	8.5

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline—Dealer	Gasoline—Inc. tax	Kero. tank wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	14 0	5.0	8.0
Tulsa	14.0	5.0	6.0
Ft. Smith, Ark.	14 75	5.0	8.0
Little Rock	17.25	7.5	9.6
Texarkana	14.0	5.0	8.5

Texas

	Gasoline—Tank wag.	Gasoline—Serv. sta.	Gasoline—Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.5	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	14.5	18.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank wag.
Halifax, N.S.	24.0	8.0	18.5
St. John, N.B.	24.0	8.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	29.8	7.0	22.3
Regina, Sask.	28.5	7.0	22.0
Saskatoon, Sask.	31.3	7.0	24.8
Edmonton, Alta.	28.0	7.0	23.0
Calgary, Alta.	25.5	7.0	20.5
Vancouver, B.C.	23 0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon price. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Retail Price Changes

Standard Oil Co. of Kentucky December 15 reduced tank-wagon kerosene 1.5 cents in Montgomery; December 17 advanced tank-wagon kerosene 1 cent in Jacksonville then December 27 lowered the price 1 cent; December 21 advanced tank-wagon and dealer gasoline 1 cent in Tampa; December 24 reduced tank-wagon and dealer gasoline .5 cent in Covington.

Standard Oil Co. of Nebraska December 21 advanced dealer gasoline 2.8 cents, tank-wagon gasoline .3 cent and tank-wagon kerosene .1 cent in McCook.

Atlantic Refining Co. December 24 advanced dealer gasoline .2 cent in Springfield; November 24 lowered tank-wagon kerosene .5 cent in Hartford and on December 6 lowered kerosene 1 cent in New Haven; December 24 reduced dealer gasoline .2 cent in Providence.

Continental Oil Co. December 21 lowered dealer gasoline .5 cent in Texarkana.

NEW MEXICO

Daily average production week ending January 1:

Cooper	5,370
Eaves	1,050
Eunice	28,280
Hardy	1,610
Hobbs	16,140
Jal	1,300
Langlie	2,910
Lynch	680
Lynn	530
Mattix	2,500
Monument	30,170
Penrose	4,500
Rhodes	130
Skelly	1,830
South Eunice	2,370
Vacuum	150
Artesia-Maljamar	6,810
Getty	200
Hogback	200
Rattlesnake	780
Table Mesa	90
Total New Mexico	107,600

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 4, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05¼
60-62 400 grades:		
62 oct. and below	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05¼
64-66 375	.04½	.04¾
68-70 360	.04⅞	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05¼
60-62 400	.04	.04¼
64-66 375	.04½	.04¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)

U. S. Motor grades:		
62 octane and below	.04⅝	.04⅞
63-66 octane	.04¾	.05
67-69 octane	.05⅛	.05⅜
70-72 octane (regular)	.05½	.05¾

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
67-69 octane	.05⅛	.05⅜
70-72 octane (regular)	.05½	.05⅞

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04	.04⅜
63-66 octane	.04⅜	.04⅝
67-69 octane	.04⅝	.05
70-72 octane (regular)	.05	.05⅜
60-62 400 grades:		
62 octane and below	.04	.04⅜
63-66 octane	.04⅜	.04⅝
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05⅜
64-66 375	.04¾	.05
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04¾	.04⅞
60-64.9 octane	.06½	.06¾
65-70 octane	.06¾	.07
64-66 390	.05½	.05¾
68-70 350	.05¾	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¾	.09¼

EAST COAST (Domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.07	.07¼
Philadelphia	.07	.07¼
Boston	.07½	.07¾
Baltimore	.07	.07¼
Charleston, S. C.	.07	.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)	.07¼	.07⅜
Philadelphia	.07½	.07⅝
Boston	.07¾	.07⅞
Baltimore	.07½	.07½
Charleston, S. C.	.07⅜	.08

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¼	.05½
60-64.9	.05⅝	.05½
65 octane and higher	.05½	.05⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.04¾	.04⅞
52-54 450 (blending)	.04¾	.04⅞
54-56 450 (blending)	.04¾	.04⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03
Grade 18-55	.03½	.03⅝

NORTH TEXAS—

Grade 26-70		.03
Grade 18-55	.03½	.03⅝

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03¼	.03½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.04¼	.04⅝
41-43 gr., 300-350 l.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04¾	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅝	.04½

NORTH TEXAS—

41-43	.04¼	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04½	.04⅝

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04⅜

PENNSYLVANIA (inland refineries)—

45	.05½	.05⅝
46	.05⅝	.05¾
47	.05¾	.05⅞

CHICAGO (Based on Group 3)—

41-43	.04½	.04⅝
42-44	.04⅝	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05½	.06½

NEW YORK (Bayonne, N. J.)—

41-43		.06 3/10

***GULF COAST (domestic)—**

41-43	.05	.05⅛

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.04⅛	.04¼
No. 1 straw, 38-40	.04	.04⅛
No. 2 straw, 32-36	.03⅞	.04
No. 2 dark, 32-36	.03¾	.03⅞
No. 3 zero to 15, 28-32	.03½	.03⅝
No. 3, 15 and above, 28-32	.03	.03⅛

NORTH TEXAS—

No. 1 prime white, 38-42	.04⅛	.04¼
No. 1 straw, 38-40	.04	.04⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36		.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03¾	.04

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.04⅛	.04¼
No. 1 straw, 38-40	.04	.04⅛
No. 2 straw, 32-36	.03⅞	.04
No. 2 dark, 32-36	.03⅝	.03⅞
No. 3, zero to 15, 28-32	.03½	.03⅝
No. 3, 15 and above, 28-32	.03	.03⅛

NEW YORK (Bayonne, N. J.)—

*No. 1		.06 3/10
*No. 2		.05½
*No. 4		.05¼

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.82½	.87½
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 5, low cold test, 18-22	.82½	.87½
Below 18 fuel oil, industrial	.70	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.82½	.90
No. 5, 15 and above (18-22)	.80	.85
No. 6, low cold test, 10-16	.75	.82½

PENNSYLVANIA (inland refineries)—

36-40	.04⅞	.05⅛

CALIFORNIA

Los Angeles:		
30-34 gas oil, per bbl.	1.50	1.70
24 plus diesel, per bbl.	1.50	1.70
24 plus diesel (bunkers)	1.60	1.75
12-16 (bunkers at tidewater)	.95	1.00
10-16 (cargo lots)	.88	1.00
12-17 (tankcars)	.95	1.10
10-17 (high sulfur)	.65	1.00
San Joaquin Valley:		
10-18 (tankcars)	.65	.85
24 plus diesel, per bbl.	1.50	1.70
San Francisco:		
24 plus diesel, per bbl.	1.60	1.70
24 plus diesel (bunkers)	1.60	1.70
10-16 (bunkers)	1.00	1.05

GULF COAST—

28-30 gas oil	.04½	.04⅝
28-30 diesel (bunkers)		1.90
Bunkers (bulk cargoes)		.85
Bunker C (bunkers)		1.05

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.05	.05¼
28-30 diesel (lighterage 6¼c per bbl.)		2.20
28-30 diesel (tankcars)		.05¼
Bunker C (to ocean-going ships in N. Y. harbor)		1.25
Industrial fuel (tankcars)	.04½	.04¾

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.19
150-160 D, 0-10		.16
150-160 D, 15-25		.15
150-160 E, 15-25		.14½
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.13½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.18	.19
15 pour test	.17	.18
20 pour test	.16	.17
25 pour test	.15	.16
Steam refined:		
600	.07	.08
650	.10½	.11½
600 Pennsylvania flash	.11	.12
630 flash	.14	.15
600 Warren E filtered	.13	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale Oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¾	.11½

PENNSYLVANIA—

150 vis. at 70° F. color, 400-405 flash:		
Zero pour test	.19	.19½
10 pour test	.18	.18½
15 pour test	.17½	.18
25 pour test	.16½	.17½
180 vis. at 70° F., 3 color:		
25 pour test	.17½	.18
200 vis. at 70° F., 3 color:		
Zero pour test	.21	.21½
10 pour test	.20	.20½
15 pour test	.19½	.20
25 pour test	.18½	.19

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.03

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0285	.0290
124-126 (a.m.p.) w.c. scale	.0285	.0290

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0295	.0300
124-126 (a.m.p.) y.s.	.0265	.0280
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05¾	.05½
60-62 400	.05⅝	.05½
61-63 390		.05⅝
64-66 375		.05¾

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.05¾	.06
65-69 octane		.06¼
Above 69 octane		.06½

KEROSENE

GULF COAST—

41-43 prime white		.05⅛
41-43 water white		.05¼
44 water white		.05⅜

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.21½	.22
600 S.R. unfiltered	.16½	.17
630 S.R. unfiltered	.21	.21½
600 flash, S.R.	.21½	.22
630 flash, S.R.	.25½	.26
Bright Stocks:		
8 color	.23½	.24
6½ plus color in dilution	.23	.23½

NEUTRAL OIL

200-3 color	.30	.30½
150-3 color	.25½	.26

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude Scale:		
124-126 w.s.	.0295	.0300
124-126 y.s.	.0265	.0280

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas (May 22, 1937)*	$1.35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.

Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Jan. 1, 1937)*	.67
Elk Basin, Wyo., light*†	1.30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.70
Hogback, New Mex. (Jan. 1, 1937)*	1.21
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table)	
Artesia, N. Mex. (Jan. 28, 1937)‡	.92
Maljamar, N. Mex. (Jan. 28, 1937)	.92
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.	.97
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Oct. 25, 1937) gr. scale $1.05 below 35°; $1.30 above 40°.	
Cut Bank, Mont. (Oct. 25, 1937), (posted by Northwest Refining Co.)	1.10
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Lisbon, La. (Dec. 13, 1937)*	.98

*Caddo Crude Oil Purchasing Co.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 4, 1937)	1.12

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Eastern States

TIDE WATER ASSOCIATED OIL CO.
(Effective December 1, 1937)

Bradford, Pa.	$2.20
Allegany, N. Y.	2.20

SOUTH PENN OIL CO.
(Effective December 1, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.20
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.88
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.82
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.70
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.27

PENNZOIL CO.
(Effective December 1, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.15
Group B Includes Tidioute district.	2.14
Group C Includes Turkey and Tidioute districts.	2.13
Group D Includes Bear Creek and Porkey districts.	2.12
Group E Includes Eideneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.10

PURE OIL CO.
(Effective December 1, 1937)

Cabin Creek, W. Va.	1.82
Bradford Hollow, W. Va.	1.82
Kelly Creek, W. Va.	1.82

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (July 23, 1937)*	1.27
West Branch, Mich (Dec. 29, 1937)†	.80
Buckeye (July 23, 1937)	1.24½
Arenac, Mich (Dec. 29, 1937)†	.80
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1.42
Kentucky River	1.50
Western Kentucky	1.40

*Posted by Pure Oil Co.
†McClanahan P. L. & Simrall

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.19
Oil Springs	2.17
TURNER VALLEY NAPHTHAS AND CRUDE OIL (September 1, 1937, by Imperial Oil, Ltd.)	
Clear naphtha and discolored naphtha, 65 gravity and higher	$2.80
Discolored naphtha and crude oil 40-40.9 gravity	1.80
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1.84
These prices f.o.b. producers field tankage.	

*Imperial Oil, Ltd.

Mexico

Heavy Mexican crude	$ .90

*In U. S. currency, f.o.b. ship, based on November spot market transactions.

Crude Oil Price Changes

Effective December 28, 1937, Standard Oil Co. of Louisiana posted the following crude price schedule in the Roanoke field and the North Crowley field in Coastal Louisiana: Below 21 gravity, 90 cents; 21 gravity, 93 cents; 22 gravity, 96 cents; 23 gravity, 99 cents; 24 gravity, $1.02; 25 gravity, $1.05; 26 gravity, $1.08; 27 gravity, $1.10; 28 gravity, $1.12; 29 gravity, $1.14; 30 gravity, $1.16; 31 gravity, $1.18; 32 gravity, $1.20; 33 gravity, $1.22; 34 gravity, $1.24; 35 gravity, $1.26; 36 gravity, $1.28; 37 gravity, $1.30; 38 gravity, $1.32; 39 gravity, $1.34, and 40 gravity and over, $1.36.

Effective December 29, 1937, McClanahan Pipe Line Co. posted Arenac and West Branch crude in Michigan at 80 cents per barrel. The Simrall Corp. met both prices, which represents a reduction of 29 cents from the prices in both fields made effective July 22, 1937.

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, (Deep) Satsuma	10 Gulf Coast	11 Gulf Coast	12 Lea County, N. Mex. West Texas except Pecos County	13 Mirando district, Texas	14 Marion County, Texas	15 Refugio, Greta, Saxet, Taft, Texas	16 Anahuac, Flour Bluff, Dickson, Turtle Bay	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Bel. 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$.95	....	$.96	....	$1.01	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	.. .	....	1.01	1.01	....	1.00	....	1.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	.96
Bel. 29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1.19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	....	.98	1.26	1.12	1.31	1.26	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	....	1.00	1.28	1.14	1.33	1.28	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	....	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	....	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	....	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	....	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.
Columns 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tidewater Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—All purchasers (effective July 6, 1937).
Column 14—Magnolia Petroleum Co.
Column 15—Humble Oil & Refining Co. (effective July 6, 1937).
Column 16—Humble Oil & Refining Co.
Columns 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

Rocky Mountain Runs

Production estimates for week ended January 1:

WYOMING

Salt Creek	16,010
Big Muddy	1,310
Badger Basin	250
Black Mountain	140
Byron	3,200
Dallas Derby	570
Dutton Creek	60
Elk Basin	20
Frannie	790
Garland	2,460
Hidden dome	210
Hudson	300
LaBarge	960
Lance Creek	12,360
Lost Soldier	1,480
Medicine Bow	4,370
Midway	40
Oregon Basin	2,170
Osage	800
Pilot Butte	20
Quealy dome	870
Rock River	3,160
South Casper	500
Poison Spider	290
Teapot	20
Warm Springs	70
Wertz	440
Waugh dome	250
Total Wyoming	53,120

MONTANA

Border	20
Cat Creek	620
Cut Bank	7,770
Dry Creek	430
Kevin-Sunburst	3,830
Pondera	1,110
Total Montana	13,780

COLORADO

Florence	160
Fort Collins and Wellington	240
Iles dome	2,690
Moffat	390
Orchard	40
Rangely	90
Tow Creek	120
Price	660
Total Colorado	4,390

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ending Dec. 31 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	51½	4,400	61	54	57¾	Amerada Corp.	788,675	N.P.	50cQ	10-30-37	$2.00	125½	75	80	48½
37	18	13,700	20	18⅝	20	Atlantic Refining	2,664,000	$25	25cQ	12-15-37	1.25	35⅛	26⅝	28	20½
43⅜	10⅛	9,600	16¼	13½	14½	Barber Co.	387,149	$10	75c	12-16-37	.50	38½	21	22½	11⅝
35¼	10	20,200	14	12⅝	13¼	Barnsdall Oil Co.	2,247,974	$5	25cQ	11-1-37	.80	28¼	14⅛	14⅜	5⅞
17⅞	7	53,600	9⅛	8½	8⅞	Consolidated Oil Corp.	13,919,417	N.P.	20cQ	2-15-38	.80	17¼	11½	12¼	6½
49	24	29,500	31¾	28½	29	Continental Oil of Delaware	4,682,615	$5	25cQ	12-20-37	1.50	44⅞	28⅛	35	15⅛
17⅝	4¾	19,200	6⅞	6	6½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1⅛
35⅜	14	5,400	19½	17⅛	18	Mid-Continent Petroleum	1,855,912	$10	$1	21-1-37	1.15	30⅞	17¼	20½	9½
34	15	4,300	16	15	15¼	Mission Corporation	1,399,345	N.P.	25c	12-24-37	.45	29⅞	16¾	17¾	10⅝
26¼	17⅝	12,000	21⅝	17⅝	18½	National Supply	382,591	$25	$2 pf.‡	12-22-37	....	75½	19⅞	20⅞	9
22⅞	9	23,900	13¼	11⅞	12⅝	Ohio Oil Co.	6,563,377	N.P.	50cSA	12-15-37	.60	18	12⅛	14¼	9¼
29¾	11¾	4,200	12½	11¾	12	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6⅝
17⅛	7	No sales	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	.60*	20⅝	12¼	21	10⅝
64	30⅛	26,800	39⅞	36½	38	Phillips Petroleum	4,449,052	N.P.	75cQ†	12-1-37	2.50	52⅜	38⅛	40	13⅜
29⅞	13	7,500	17⅜	16½	17	Plymouth Oil Co.	1,050,000	$5	35cQ	9-30-37	.90	27⅜	11⅞	13	6½
24⅜	8¾	42,100	11⅞	10½	11	Pure Oil Co.	3,281,120	N.P.	25c	12-1-37	....	24⅞	16	17	5⅞
6½	4⅛	17,500	5⅝	5	5¼	Richfield Oil Corp.	3,986,638	N.P.	25c	12-24-37	....	..	..	..	..
54⅛	16	6,700	21⅞	19⅞	20¼	Seaboard Oil of Delaware	1,224,283	N.P.	25cQ	9-15-37	1.00	44	30½	36⅞	20⅝
34¾	14⅞	4,100	17⅞	16⅛	16⅝	Shell Union Oil	13,070,625	N.P.	50c	12-20-37	.25	28¼	14¾	16⅛	5⅛
60⅝	26½	4,200	29½	26½	27¼	Skelly Oil	1,006,348	$15	50c	9-30-37	....	47⅜	19½	20½	6⅛
23¼	13	46,000	15⅝	14⅝	15	Socony-Vacuum	31,151,071	$15	30c	12-15-37	.70	17½	12½	15¾	10⅝
50	27⅛	34,500	29	27⅛	29	Standard Oil of California	13,014,754	N.P.	80cQ†	12-15-37	1.20	47⅝	35	41⅛	27⅜
50	26½	16,800	35	33⅛	33⅛	Standard Oil (Indiana)	15,196,241	$25	$1Q†	12-15-37	2.40	48½	32¾	33⅜	23
43	30⅝	200	34	34	34	Standard Oil of Kansas	134,841	$10	$5	12-20-37	1.00	31	25	32	20
76	42	30,900	45⅞	44	45¼	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	12-15-37	2.00	70⅜	51⅛	52⅜	35⅝
77½	44½	1,600	48	46	47	Sun Oil	2,156,825	N.P.	25cQ	9-15-37	$1 & 6% Stk.	91	70	77	60½
7¾	1½	15,700	2⅝	2¼	2½	Superior Oil Corp.	1,388,079	$1	....	.....	..	6¾	3	3½	1⅝
65½	34¾	41,400	41	38	39¼	Texas Corp.	10,896,858	$25	50cQ	1-2-38	1.50	55¼	28⅞	30¼	16½
9⅝	2	10,600	3¾	3½	3⅝	Texas Gulf Producing Co.	888,134	N.P.	10c	12-23-37	.05	8⅞	4⅜	4¾	2⅛
16⅝	5⅜	13,400	8¼	7	7½	Texas Pacific Coal & Oil	888,237	$10	10c	12-1-37	.25	15¼	7½	9¼	3¼
21⅝	13⅛	8,200	15	13¾	14¼	Tide Water Associated	6,288,512	N.P.	15c Spl.	12-17-37	.70	21¾	14¾	15⅞	7⅝
28¼	17½	10,100	19	18⅛	18¾	Union Oil of California	4,386,070	$25	55cQ†	11-10-37	1.00	28½	20¾	24	14⅝
31½	22	900	22½	22	22¼	Union Tank Car Co.	1,200,000	N.P.	40cQ	12-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	1¾	1,100	2¼	2⅛	2⅛	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2⅝	3⅛	1

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock.

New York Curb Exchange

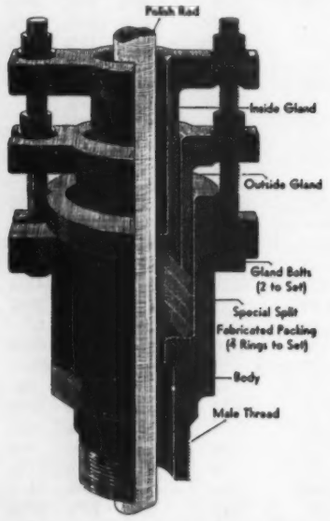
1937 High	1937 Low	Week ending Dec. 31 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
10	6⅝	8,100	9⅜	7¾	8	American Republics Corp.	1,308,049	$10	30c	12-27-37	....	..	..	..	..
21⅜	7	1,500	9¼	8⅝	9	Bridgeport Machine Co.	260,000	N.P.	1.25	12-30-37	$1.00	21	13¼	14⅛	3⅜
51½	36	200	37	36	37	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-15-37	3.25	50	39¾	42½	30⅛
123	95½	100	100	99	99	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-30-37	7.00	124¾	105	157	115
5⅜	1½	47,700	2	1¾	1⅞	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	⅝
5½	1½	4,600	1⅞	1½	1¾	Cosden Petroleum	399,687	$1	....	.....	....	4½	1½	1½	¼
38¾	20¼	12,400	24½	21¼	23	Creole Petroleum	6,974,356	$5	50cSA†	12-15-37	.50	39	19⅞	23¾	10
18⅝	16½	600	8⅛	7⅛	7¼	Darby Petroleum	351,390	$5	25cSA	1-15-38	.50	18⅛	9	8⅞	4
8⅜	2¼	1,700	3⅜	3	3¼	Derby Oil & Refining	263,162	N.P.	....	.....	....	6¾	1⅞	2	⅝
47½	24½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-1-37	4.00	47½	38½	38	33¼
63½	33	11,200	38½	35½	37¾	Gulf Oil Corp.	9,076,202	$25	25cQ	12-1-37	1.50, 100% Stk.	59	36	74¾	50¼
87	54⅞	4,100	67¾	63⅞	65¼	Humble Oil & Refining	8,923,935	N.P.	62½cQ	12-27-37	1.50	80	57	64	44
24¼	14½	2,500	17½	17	17⅜	Imperial Oil of Canada	26.919,871	N.P.	62½cSA†‡	12-1-37	1.25	24½	19¾	22½	15⅝
15	5⅞	1,100	7½	7	7	Indiana Pipe Line	300,000	$10	50cSA	11-15-37	.80	9¾	5½	6⅛	3⅝
39½	23½	5,500	28½	27⅝	28½	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-37	2.50	39⅝	32⅝	39¾	28
8¾	2⅜	7,300	3	2⅝	3	Kirby Petroleum Co.	500,000	$1	10c	9-15-37	.20	5¾	2⅝	3	1⅞
34	12½	8,000	18⅝	16½	18½	Lion Oil Refining	270,000	N.P.	50cQ†	12-24-37	.75	17¾	7⅜	8⅛	3½
14¼	5¼	8,800	7½	7	7⅛	Lone Star Gas	5,382,723	N.P.	20c	12-22-37	.60	14¼	9⅞	10⅞	4½
15¼	6¾	14,200	8⅞	7¾	8½	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-37	.50	15⅜	9⅞	11⅜	4⅝
14⅝	6¼	2,200	7⅛	6⅞	6⅞	Midwest Oil Co.	998,444	$10	50c	12-15-37	....	....	..	..	..
7⅞	4⅛	1,100	5	4⅝	5	Mountain Producers	1,682,182	$10	30cSA	12-15-37	.60	8⅝	5	5⅝	4⅛
19½	12	300	14¼	13½	13½	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-38	1.00	23	17⅜	20	11⅝
12½	7¼	700	7⅝	7½	7⅝	National Transit	509,000	$12.50	55cSA	12-15-37	.75	15⅜	9¼	10⅝	6⅝
5	1⅛	1,200	1½	1⅜	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	3⅞	No sales	..	..	..	New York Transit	100,000	$5	60c Spl.	12-28-37	.35	6¼	4¼	4⅞	3
12¾	5¾	200	6¼	6¼	6¼	Northern Pipe Line	120,000	$10	25cSA	12-1-37	.40	9¾	4⅞	8	5¼
9⅝	2¾	34,200	5⅞	4⅞	5¾	Pantepec Oil	1,608,700	N.P.	....	.....	....	10⅛	3¼	4⅝	1¼
13¾	2	2,300	2⅞	2½	2⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	.50	19¼	4½	5	1½
6½	2¼	2,900	3¼	3	3	Ryan Consolidated	296,931	N.P.	....	.....	..	4¾	1⅞	2½	⅝
7¼	3⅞	No sales	..	..	..	Southern Pipe Line	100,000	$10	25cSA	9-1-37	.25	7⅞	3¼	5	3⅞
56	35	500	38	37¼	38	South Penn Oil	1,000,000	$25	$1.15Q†	12-28-37	2.60	44	32½	34½	21⅝
42	20	No sales	..	..	..	South West Penna. Pine Lines	35,000	$50	50cQ	12-31-37	13.00	60	44	56	44¼
21⅛	14¾	2,600	17½	17	17	Standard Oil of Kentucky	2,604,790	$10	40cQ†	9-15-37	1.35	23⅜	17⅛	24	18
13¾	8	400	9	9	9	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7⅜
45	16	2,500	20½	18¼	19¼	Standard Oil of Ohio	753,740	$25	75cQ†	12-15-37	2.00	40	21¾	23⅝	11⅛
4⅞	2	3,700	3	2¾	2⅞	Sunray Oil	1,910,119	$1	10c	12-24-37	.10	5	2⅝	2⅞	⅜
7⅝	2	300	4⅛	4	4⅛	Texon Oil & Land	336,028	$2	15cQ	1-3-38	.60	9¾	5⅜	6⅞	5
13⅝	3	55,200	4⅝	3⅞	4⅜	United Gas Corp.	7,818,959	$1	10c	9-15-37	.20	10¾	4	4⅞	⅞

†Includes extras. ‡Payable in Canadian funds.
Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Polish-Rod Stuffing-Box of New Design Offered by Hercules

The Hercules duplex polish-rod stuffing-box is a recent addition to the line of patented oil-well specialties manufactured by the Hercules Tool Co.,



Kennedy Building, Tulsa. This new box has one inner gland, one outer gland, and four packing rings of a special fabrication. Packing is adjusted by two bolts which hold the glands in place.

The special packing is said to last three to six months on wells where the conventional type stuffing-box must be repacked every few days. At the time of installation, only the edge of the packing will contact the polish-rod, as shown in the illustration. Soon, however, the contacting edges of the packing rings wear down, permitting the entire thickness of the packing to contact the rod, forming a perfect seal and lasting indefinitely. The packing polishes and glazes the polish-rod regardless of the condition of its surface.

Because the packing follows the polish-rod in its travel from a perpendicular line, this box needs no "wabbler." The packing will not burn out on wells periodically pumping off, the manufacturers say, since it absorbs enough oil to permit adequate lubrication of the polish-rod while no fluid is being lifted. A perfect pack is obtained regardless of the size of the polish-rod used or the length and frequency of the strokes. The box will not leak, according to the manufacturers, and is made in all sizes.

Bulletins, Booklets and Other Literature for the Trade

A bulletin offered by the Mason-Neilan Regulator Co., 1190 Adams Street, Boston, Mass., contains information about the Syncromaster pressure controller, a new Masoneilan control unit.

Amercoat, a corrosion-resistant, sprayable plastic coating for concrete, steel and wood, is described and illustrated in an 8-page bulletin prepared by American Concrete & Steel Pipe Co., Los Angeles, Calif.

Typical Lufkin installations in Oklahoma, along with entertaining articles of a general nature, are offered in the current issue of the Lufkin Line, published by the Lufkin Foundry & Machine Co., Lufkin, Tex.

The latest number of the Rockwood Record, published by the Rockwood Manufacturing Co., Indianapolis, Ind., contains information about the company's belts, pulleys, equipment bases and fiber floor mats.

Foote Bros. Gear & Machine Corp., 5301 South Western Boulevard, Chicago, announces bulletin No. 601 on IXL agitator drives. It contains specifications, dimensions and description, with application views.

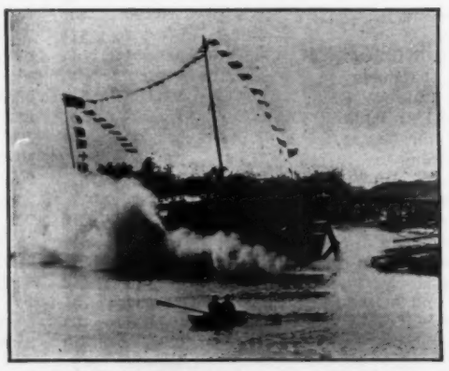
The Heat Exchange Institute, 90 West Street, New York, announces publication of Standards of the Tubular Exchanger section covering mechanical, construction and thermal standards for shell and bare-tube heat-exchangers. The Standards contain data on exchanger-shells, tube-sheets, baffles, support-plates, tubes, material specifications, fouling factors and thermal design. Copies may be obtained at 75 cents each.

"Oil-Field Equipment" is the title of a 24-page bulletin dealing with rotary drilling rigs, mud-screens and other oil-field equipment developed and built by the Allis-Chalmers Manufacturing Co., Milwaukee, Wis. It shows typical hookups and installations.

Bridgeport Opens New Store

Bridgeport Machine Co., Wichita, Kans., has opened a new branch store at Sixth and Ohio Streets, Wichita Falls, Tex. The store will operate as a complete distributing branch carrying the full line of Bridgeport rotary and cable tools, rental tools, gumbo buster rotary machinery, drilling muds, pipe and tubular products, used and rebuilt equipment, supplies and other equipment used in the Wichita Falls area. W. M. McClure, formerly in Fort Worth, is manager.

◆



The Gulf Oil Corp.'s motor vessel "Paratex," recently launched from the yards of Pennsylvania Shipyards, Inc., Beaumont, Tex., is of arc-welded construction. Her length is 257 feet 9 inches; beam, 43 feet; depth, 17 feet 6 inches. Her capacity is 20,000 bbls. The boat is for canal service and has telescopic masts, stacks and pilot-house to permit passage under low bridges. Pennsylvania Shipyards, Inc., according to its president, Charles T. Samuelson, has built 151 vessels of 100 per cent arc-welded construction. The yard uses the Lincoln shielded-arc process.

Three New Features Embodied in Standard Bronze Valves

Users of Jenkins standard bronze valves, made by Jenkins Bros., 80 White Street, New York, will have the advantages of three new developments which add convenience and better service. A new handwheel design affords unusually large gripping

area without bulkiness and because of its deeply depressed center prevents the hand from touching a hot wheel-nut.

A new valve index-plate, held in the depressed center of the wheel by the wheel-nut, gives the figure numbers of the valve and the disc number and service to aid in ordering replacements.

A new renewable composition disc is offered with the statement that it has extraordinary life in steam service, and comes near to being a "universal" disc. This disc, designated as No. 119-A, replaces No. 119.

Protective Creams For Workers

A new type of protective treatment for the hands of industrial workers is being marketed by the Davis Emergency Equipment Co., 55 Vandam Street, New York. The treatment consists in the use of No. 1 and No. 2 Eco protective creams, one for protecting the hands during work and the other for use after work. The No. 1 cream is rubbed into the hands, and on the arms if necessary, before starting work. It forms an invisible, nonsticky, unnoticeable film which protects the skin from the action of chemicals, solvents, grease, oil, gasoline, and other substances harmful to the skin. When the hands are washed the film comes off easily, bringing with it the dirt, grease, etc., that the skin has picked up. The No. 2 cream is applied after finishing work for the day. It replaces the natural oils with a soothing cream which keeps the skin soft and free from chapping and cracking.

Pumps For Viscous Chemicals

A complete line of specially designed rotary pumps for viscous materials is now built by the Worthington Pump & Machinery Corp., Harrison, N. J. They are ruggedly constructed to transfer such chemicals as sulfonated oils, fatty acids, tars, asphalts, glues, glycerin, petrolatum, residuum, hot bottoms, mineral oils, greases, etc. These pumps are available in iron, bronze, monel, nickel, Everdur, stainless steel, aluminum, etc., for capacities up to 700 g.p.m., pressures up to 150 pounds per square inch, and viscosities up to 500,000 SSU or 110,000 centipoises.

Ryerson Control Plan Designed to Preserve Steel's Quality

The plan for controlling the quality of steels, developed by Joseph T. Ryerson & Son, Inc., Lock Box 8000-A, Chicago, is designed specifically to

meet a need which has arisen with the improvement of manufacturing standards and the increase in production speeds. Uniformity is particularly necessary for continuous processes of production lines and automatic equipment.

Years ago Ryerson began preparing to meet these more exacting requirements, and last September it announced a new plan. The plan is described in an unusually attractive book on the general subject of quality control, entitled "Ryerson Certified Steels." The book, sent on request, is 11 by 15 inches in size. It contains many pages of pictures and facts of interest to buyers and users of steel. It tells about the long and arduous task of building up stocks of better steel in each classification. It tells how greater stress was laid on the preservation of quality during handling, storing and shipping operations. Then in pictures the volume explains in detail the plan of control put into effect on all Ryerson alloy steels. The lost time and trouble formerly experienced when bars of the same standard S.A.E. analysis responded differently to heat treatments are eliminated.

A digest of standard and special alloys is given in the book, and a summary of other steel products, along with suggestions for the heat-treater, is included.

Robie to Manage Diesel Sales

T. M. Robie has been appointed manager of the diesel sales division of Fairbanks, Morse & Co., Chicago. Mr. Robie has been in the manufacturing and sales division of Fairbanks-Morse since he returned from World War overseas service in 1919. Since 1932 he had been in charge of diesel sales to resale manufacturers. Previously he had been in the New York City and Dallas branch offices. He was employed at the factory on diesel engine designing, testing and building for nine years.

Upon graduation in 1914 from the University of Michigan, where he specialized in the study of internal combustion engines, Mr. Robie was employed by the General Electric Co. on locomotive test and on development of high-speed opposed-piston diesel generating sets. He operated diesel power plants in New Mexico for two years previous to entering war service.

Here and There With Men Who Manufacture Equipment

Norton McKean, recently elected vice president of the American Meter Co., joined that organization in 1919 as superintendent of its Boston plant. After that he was made general superintendent of the corporation and manager of its Albany, N. Y., plant. He will continue in those executive duties.

The Cooper-Bessemer Corp. has completed a new warehouse building in Pampa, Tex., where an increasing number of Cooper-Bessemer oil-field engines, gas and diesel, are being installed.

Charles L. Lockett has been made manager of the export division of Oil Well Supply Co., with headquarters in New York. He succeeds George E. Niver, who has joined National Tube Co. in Pittsburgh, Pa.

The Larkin Packer Co., Inc., St. Louis, Mo., has discontinued its warehouse at Hobbs, N. M., and has opened one at Odessa, Tex., with Bill Graham as warehouseman. Ollie Holmes, formerly at the Hobbs store, is now warehouseman at Larkin's new warehouse at Great Bend, Kans.

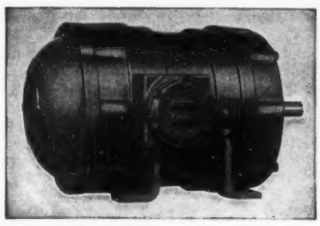
The Butler Manufacturing Co., truck-tanks and steel buildings, has been awarded a contract to build 10 steel airplane hangars, 96 by 200 feet, for the Soviet government. This business was placed through the Amtorg Trading Co. of New York.

The Union Wire Rope Corp. appointed J. E. Briggs sales representative in West Texas and the Texas Panhandle. His headquarters will be in Lubbock.

Flow meters for 1,500 pounds working pressure are discussed in a bulletin issued by the Foxboro Co., Foxboro, Mass.

Explosion-Proof Squirrel-Cage Motor Offered by Reliance

The Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland, Ohio, announces a line of explosion-proof squirrel-cage alternating-cur-



rent motors (type AA) with mounting dimensions conforming to N.E.M.A. standards. These motors have been tested and approved by the Underwriters' Laboratories for Class 1 Group D hazardous locations, which include those in which flammable volatile liquids, highly flammable gases, mixtures or other highly flammable substances are made, used or stored in other than the original containers.

Construction of the motors is such that all working parts are completely enclosed, and according to the manufacturer, the housing is strong enough to withstand even an internal explosion without bursting, loosening the joints, or permitting flame to escape into the outside air. Rotors are integrally cast to assure reliability and uniformity of performance.

UNDERFLOOR STEAM ENGINE DRIVES ROTARY TABLE

The National Supply Co. has introduced to the oil country an advanced departure in the method of driving the rotary table. Its new type B underfloor drive eliminates the former conventional one from the drawworks by driving the rotary table with a separate 9 by 8 steam engine placed below the derrick floor. The advantages are manifold. One is elimination of the rotary drive chain across the derrick floor, giving more clear floor space and greater safety. There is less wear on the drawworks and on the hoisting engine, better control over drilling operations, less noise, greater economy.

The illustration shows an underfloor view of the type B direct rotary drive, used in drilling some of the deepest wells. The engine has a direct-coupled shaft extension on which clutch-sprockets are mounted for driving the rotary machine and countershaft. The countershaft, positioned under the drawworks, provides a means of transmitting the power of the engine to the drawworks in an emergency, or using the hoisting engine to drive the rotary machine. The chain drive to the rotary machine is enclosed in an oilbath guard. With this drive a power take-off is provided for driving an auxiliary or stand-by hoist. This is accomplished by placing a sprocket on the opposite end of the engine shaft.

The Ideal-Ajax 9 by 8 steam engine used is a new all-purpose oil-country engine, suitable for drawworks and direct-connected pump drives as well as for direct rotary drive.

Oil Man's Calendar

January

10-14—Detroit, Mich. Society of Automotive Engineers, Book-Cadillac Hotel.

13—Oklahoma City, Independent Oil Jobbers Association of Oklahoma.

15—Robinson, Ill. Annual meeting, Illinois-Indiana Petroleum Association, Woodworth Hotel.

17-21—Cleveland, Ohio, American Road Builders Association.

18—Oklahoma City, Interstate Oil Compact Commission.

24—Hot Springs, Ark. Governor Mariand's Petroleum Conservation Conference of Oil State Governors.

24-25—Minot, N. D., Northwest Petroleum Association, North Dakota Division.

27-28—Minneapolis, Minn., Northwest Petroleum Association, Minnesota Division, Hotel Radisson.

28—Pittsburgh, Pa. Annual dinner, Pittsburgh Traffic Club, William Penn Hotel.

February

3-4—Lubbock, Tex. Third Welding Conference, Texas Technological College.

7-9—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel

14-15—Wichita, Kans. Kansas Oil Men's Association, twenty-fourth annual convention, Hotel Broadview.

14-18—New York, American Institute of Mining and Metallurgical Engineers, annual meeting, Engineering Societies Building.

17-18—Amarillo, Tex. American Petroleum Institute, Division of Production, spring meeting, Herring Hotel.

22-24—Milwaukee, Wis. Wisconsin Petroleum Association, Schroeder Hotel.

22-24—Columbus, Ohio, Ohio Petroleum Marketers Association, fifteenth annual convention and marketing exposition, Deshler-Wallick Hotel.

March

2-3—Indianapolis, Ind., Indiana Independent Petroleum Association, spring meeting.

7—Rochester, N. Y., American Society for Testing Materials, Spring Regional Meeting and Group Committee Meetings.

16-8—New Orleans, twenty-third annual meeting, American Association of Petroleum Geologists, Roosevelt Hotel.

23-25—Los Angeles, Calif. American Society of Mechanical Engineers.

24-25—Fort Worth, Tex. American Petroleum Institute, Division of Production, spring meeting, southwestern district, Blackstone Hotel.

April

4-6—Cincinnati, Ohio, A.G.A. Distribution Conference, Netherland Plaza.

13-15—Cleveland, Ohio, National Petroleum Association.

13-15—Houston, Tex., Petroleum Industry Electrical Association.

17-21—Dallas, Tex., American Chemical Society.

19—Los Angeles, Spring meeting, Pacific Coast district, A.P.I. Division of Production, Biltmore Hotel.

20-22—Buffalo, N. Y., American Institute Mining and Metallurgical Engineers, Open Hearth Conference.

28-29—Pittsburgh, Pa. Spring meeting, Eastern District, A.P.I. Division of Production, William Penn Hotel.

May

11-13—Tulsa. Natural Gasoline Association, Hotel Tulsa.

12-14—Tulsa. National Oil Scouts Association of America.

14-21—Tulsa. International Petroleum Exposition.

23-25—Wichita, Kans. American Petroleum Institute, eighth midyear meeting.

(?)—New Orleans, La. American Gas Association, Natural Gas Department.

June

6—Houston, Tex. Oil Workers International Union.

16-18—Pittsburgh, Pa. Pennsylvania Grade Crude Oil Association.

20-24—St. Louis, Mo. American Society of Mechanical Engineers.

CLASSIFIED ADVERTISING

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY
El Dorado, Arkansas
Fee, Lease & Mineral Ownership
on short notice. Ownership maps.

Specializing leases twenty acres up dollar acre, East Tex., La., S. Ark. Owners—Attorney, Box 1122, Little Rock, Arkansas.

New Mexico OIL LEASES WHOLESALE
40 acres at a time.
Roy G. Barton, Clovis, New Mexico

YOAKUM CO., Tex. oil lease S. halves Sec. 596 and 597 in ¼ by 2 mile tracts across "high," in favorable drilling sites for $15 per acre, $1 delay rental. Dr. J. A. Robinson, Vets. Adm., Los Angeles, Cal.

CHOICE LEASES, large and small tracts. South Texas, favorable trend. Brookfield Exploration Company, Milam Building, San Antonio, Texas.

FOR SALE—Leases & Royalty. Land in fee $4 and up per acre. Also drilling blocks. J. N. SWANSON, Sayre, Okla.

LEASE BUYERS, salesmen, operators, please notice. We own and have under operation Colorado's coming field in Huerfano County. We have proven wet gas and are drilling two deep oil tests. We offer selected leases against our drills also a geological recommended drilling block of 3,000 acres. Don't delay get connected with this developing field on the ground floor. W. S. Pressey, Pueblo, Colo.

BREWSTER COUNTY, TEXAS—Small and large tracts of land in fee. All minerals included—CHEAP—to brokers and dealers only. Write A. C. Smith, P. O. Box 200, San Antonio, Texas.

NEW Kansas oil field, 50 wells now producing. Oil lease 320 acres, three-eighths mile from well that came in 100 bbls. at 740 ft. Good structure. Price $10 acre. Address Box 10, Kincaid, Kansas.

AM OFFERING 3,000 acres well located on LaSalle anticline in Illinois for the drilling of test well. Acreage recommended by competent geologist. For information and terms write I. L. Barr, 417 Lamar Avenue, Paris, Texas.

50 ACRE lease ¾ mi. Bowles-Robertson east Telferner field, Victoria Co. See or wire Roscoe Gillean, 207 E. 31st St., Austin, Tex. Ph. 3709.

WE OFFER choice oil and gas mineral rights and leases, large and small tracts, favorable trend, act now and gain advantage, further information on request. P. O. Box 1156, Shreveport, Louisiana.

HAVE 1200 acres, five year leases, Illinois Basin; 400 acres Posey County, Indiana. Now drilling nearby. Priced reasonable. Low rentals. Leo H. Graves, Farina, Illinois.

Leases and Drilling Blocks

OFFSET LEASE between producers available. West Big Springs Field. Contract for 3,000 feet and bonus. Roscoe Gillean, 207 E. 31, Austin, Texas. Ph. 3709.

WANTED—OIL LEASES—Must have geology. Large acreage—can finance well through lease sales. Address Box J-201, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Deep test SE Martinsville, Clark Co., Ill. 2500 A., no rental until July. W. V. Tarman, Martinsville, Ill.

HAVE STRUCTURE 10,000 acres leases New Mexico, best geology, location, test well partly drilled, fully equipped machinery, casing. Account death partner must arrange deal. Will sell entire or part. Also selected leases Huerfano County, Colo. on Alamo Structure against Pressey deep test well drilling. C. H. Radford, Box 614, Pueblo, Colorado.

DRILLING DEAL WANTED
40 Acres in the Clay City Field, with production on four sides. Address Box J-170, The Oil and Gas Journal, Tulsa, Okla.

For Sale—Maps

1938 REVISED EDITION
MAP of State of Texas, Eastern N. M., parts of Southern Okla., SW Ark. and La., shows Oil and Gas Fields in color, Counties, County Seats, elevations, coordinated alphabetical index of counties and fields.
Price $1.00 postpaid

Write for descriptive folder of Oilfield and County Ownership Maps.
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth

Mailing Lists

ROYALTY INVESTORS, by deed. Personnel lists of oil industry. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Okla

LATE AUTHENTIC addresses 200 Oil Operators South Texas for $1.00. A. L. Hood, 321 Piedmont, San Antonio, Texas

WEST TEXAS oil and business directory. Postpaid $2.00. Texas Oil Directory Co., P. O. Box 1711, Big Spring, Texas.

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

PATENTS — TRADE MARKS
All cases submitted given personal attention by members of the firm.
Form "Evidence of Conception" and instructions
"How to Establish Your Rights"—Free
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg. Washington, D. C.

Financing

CAPITAL raised for development of Oil and Mining properties. Delaware Charters. J. B. Murrow, 299 Broadway, New York.

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

INQUIRIES solicited from corporations interested in raising capital through marketing of corporate securities.
THE BROOKWORTH CO., Inc.,
110 East 42nd St., New York City.

JOHN MORRIS, Box 5411, Philadelphia, writer of some of America's greatest financial campaigns will shape your deal FREE. Prospectus expertly written and list supplied for $25. and low commission. Handle your own mailing. Established 1913.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment **For Sale—Equipment** **For Sale—Equipment** **Royalties**

PRODUCERS & REFINERS REFINERY Tulsa, Okla.
PIONEER MILLS, Inc., Guthrie, Oklahoma

Boilers of latest type in perfect condition.
One 253 H.P. Heine Cross drum, water tube boiler, type M.
Two 353 H.P. B. & W. Sterling type boilers complete with feed water pump, fuel oil pumps, feed water heater.
Six 150 H.P. Brownell, horizontal, return fire tube boilers.
Seventy 4" x 18'0" tubes, 125 lbs. working pressure.
Storage tanks—80,000 bbl.—55,000 bbl.—All other capacities.

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba —Wire—Phone—Write— Robt. W. Duden
Riverview at Second St., Kansas City, Kansas 2100 South Union St., Tulsa, Oklahoma

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE: 1—20' x 128' sectional steel building knocked down in our Oklahoma City warehouse, $850.00. I. T. I. O., Bartlesville, Okla.

WELDERS A.C. and D.C. electric motor and engine driven. Reconditioned. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

FOR SALE—At our Oklahoma City warehouse. 2—12" figure 3065 used reconditioned Goulds single stage centrifugal pumps mounted on base for use with electric motor. I. T. I. O., Bartlesville, Okla.

DRILLING RIGS, drill pipe, boilers, and any kind of used rotary drilling equipment. Immediate delivery. Write, wire or phone M. ROSENBLOOM PIPE & SUPPLY CO., 3538 Mansfield Road, Shreveport, La.

FOR SALE—Two Rotary Drilling Rigs in West Texas and New Mexico. Herschbach Drilling Company, Dallas and Kermit, Texas.

FOR SALE: 1—30 x 60 x 10 Braden sectional sheet iron building now erected at our Oklahoma City garage. $850.00. I. T. I. O., Bartlesville, Okla.

WELDER DEMONSTRATORS. Used and new. Electric or Gasoline engine drive. Thoroughly guaranteed. 30 Days' Trial. Terms if desired. Hobart Welder Exchange, Box OG-2, Troy, Ohio.

TRACTORS
Government crawler type Caterpillars 5 ton $375, 10 ton $695. Slightly used. Perfect condition.
O. C. EVANS
Mt. Sterling, Ky.

FOR SALE: 1—OCS chain driven sand reel; 1—No. 27 S&B chain driven sand reel on steel skid completely reconditioned. I. T. I. O. Co., Bartlesville, Okla.

FOR SALE—Air compressor Laidlow-Dunn Gordon, 12 x 18—12 x 12 double cylinder steam driven, A-1 condition. Jaffee Cotton Products Mfg. Co., Inc., Dallas, Texas.

FOR SALE at our Oklahoma City garage, "75" Allis-Chalmers crawler type tractor with M-75 frontend Braden winch mounted thereon. Used for servicing Oklahoma City wells. $1,500. I. T. I. O., Bartlesville, Oklahoma.

6 CLASS N-S02 Ingersoll-Rand 212 ft. Fuel Oil Driven Portable Air Compressors complete with Air Receivers. Price $500 each. HETZ CONSTRUCTION COMPANY, INC., Warren, Ohio.

FOR SALE: 1500 barrel 2 ring flat seam and 1,000 barrel BS & B vapor pressure steel storage tank now erected in Oklahoma City field. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE—One large Bignall & Keeler pipe machine complete with dies. Thread pipe up to 15½ inches. Priced to sell. Mid Cont. Pipe & Supply, Lyons, Kans.

Equipment Wanted

WE WILL PAY MORE for your used 4" boiler tubes. NELSON ELECTRIC MFG. CO., Ph. 5-1241, Tulsa, Oklahoma.

WANTED—Good used adding machine with foot and inch column for tallying pipe. Write South Texas Supply Corporation, Three Rivers, Texas.

WANTED—Buy 4,000 ft. 40-pound 10¾-inch casing, 12,000 feet 7-inch 26-pound grade D casing and 12,000 feet 2½-inch upset tubing, all new for January delivery Rodessa, Louisiana, with same delivery each month thereafter. William Monroe Layton, Rodessa, Louisiana.

Situations Wanted

ENGINEER, experienced in refinery maintenance and construction. Can convert your present equipment into a combination topping and cracking unit. Address Box J-200, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

REFINERY STILLMAN wanted. Combination topping pipe still and vacuum asphalt operator. Must have experience. Address Box J-191, The Oil and Gas Journal, Tulsa, Okla.

Crude Oil Production

RODESSA CRUDE oil for sale from my Owen and other Miller County, Arkansas, wells. Shipments to be made via KCS Ry. from Layton, La. or Ark., to Lake Charles or New Orleans, La., Beaumont or Port Arthur, Texas. See William Monroe Layton, Rodessa, Louisiana.

Royalties

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G Barton, Clovis, New Mexico.

Oil Royalties and Oil and Gas Leases
Bought and Sold
E. T. Marion
1109 Petroleum Building
Midland, Texas.

WANT production, also royalties. Will drill wildcats and offsets of merit. Submit data complete. Address Box J-192, The Oil and Gas Journal, Tulsa, Okla.

ROYALTY DEPOSITOR CORPORATION, 70 Pine Street, New York City, are buyers of landowner's producing royalties for a large royalty Investment Trust. Offerings of good properties are invited.

Have You Pieces of Equipment to Sell at a Profit?

Leases to sell or trade? Need additional capital to expand your plans? Or perhaps you have potential oil lands to lease or sell outright, or wish to contact a responsible drilling contractor to take a part interest for developing.

Whatever may be your reason for wishing to call the attention of the oil-minded men of the world to your proposition, there is one effective medium: the CLASSIFIED COLUMNS of THE OIL AND GAS JOURNAL.

Refer to our rates on the preceding page. You will find these rates little, if any, more than those of your daily newspaper.

The Oil and Gas Journal
Classified Dept.
Tulsa, Oklahoma

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

YOU have your organization and can give good service. Does the Billion Dollar Petroleum Industry know it? Have you made it easy for oil men to order from you? If not, the surest and best way to promote the merits of your company is to use The Oil and Gas Journal —the oldest and best petroleum publication in the world.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London, E. C. 2., England, are buyers of producing oil royalties.

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Business Opportunities

WANTED—Driller with rotary equipment to drill to Minnelusa series in Lance Creek field Wyoming on percentage basis or will sell interest in lease to drill well. Good wells on quarters joining. Wire or phone E. T. Hewett, Ainsworth, Nebr.

WANTED to contract with producers of crude oil in Texas, New Mexico, Louisiana and Kansas. Give price at wells, analysis of oil and gravity and etc. Amount of oil for contract. Address Box J-190, The Oil and Gas Journal, Tulsa, Okla.

WANT someone to handle some Real Estate papers. Draw 10 per cent interest. For sale, drilling block or put up for drilling contract. Charlie Priolo, 2301 W. 6th St., Amarillo, Texas.

WANT party able to finance and drill government permit, San Uan basin, N. M. Sutton, 1270 Downing, Denver, Colo.

Survey Service

OIL, Mining, Industrial, Investigations and Appraisals made, anywhere, at attractive rates, under the Technical Supervision of an experienced and reliable personnel. Brookfield Exploration Co., Milam Building, San Antonio, Texas.

Real Estate

FOR RENT OR SALE—50 by 140 ft. brick building, show room, front and rear truck entrance, wholesale, retail district. Rent reasonable. A. Faustgen, Wooten Hotel, Abilene, Tex.

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